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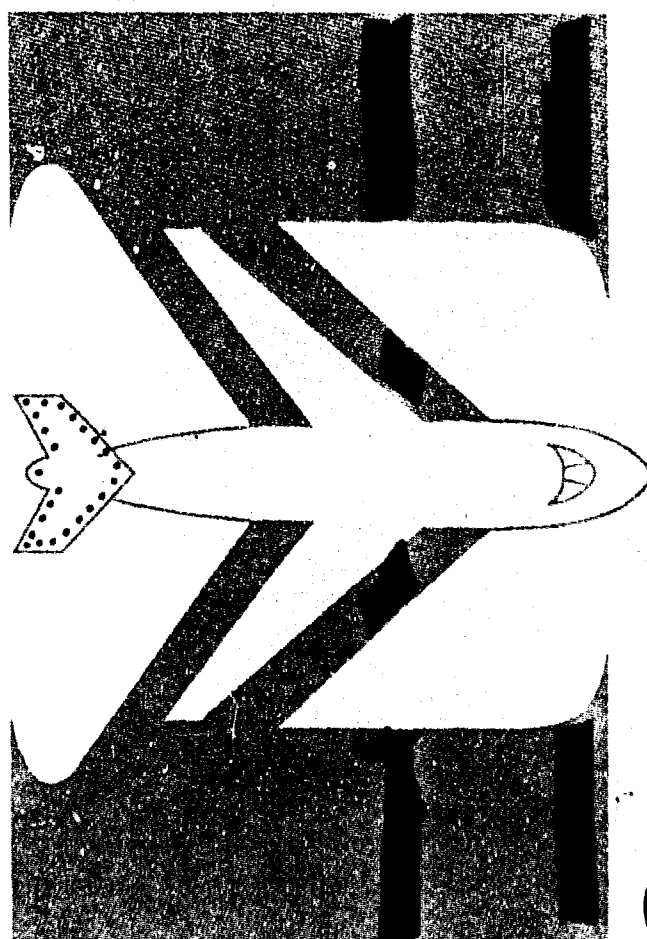
US Department  
of Transportation  
Federal Aviation  
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# FAA Statistical Handbook of Aviation

2

Calendar Year 1989

AD-A232 670



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# FAA Statistical Handbook of Aviation

**Calendar Year 1989**

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1 Report No	2 Government Accession No	3 Recipient's Catalog No	
4 Title and Subtitle  FAA STATISTICAL HANDBOOK OF AVIATION		5 Report Date  1989	
7 Author(s)		6 Performing Organization Code  AMS-420	
9 Performing Organization Name and Address Federal Aviation Administration Office of Management Systems 800 Independence Avenue, SW Washington, DC 20591		8 Performing Organization Report No	
		10 Work Unit No (TRAIS)	
		11 Contractor or Grant No	
12 Sponsoring Agency Name and Address Department of Transportation Federal Aviation Administration 800 Independence Avenue, SW Washington, D.C. 20591		13 Type of Report and Period Covered Annual Calendar Year 1989	
		14 Sponsoring Agency Code	
15 Supplementary Notes			
16 Abstract  This report presents statistical information pertaining to the Federal Aviation Administration, the National Airspace System, Airports, Airport Activity, U.S. Civil Air Carrier Fleet, U.S. Civil Air Carrier Operating Data, Airmen, General Aviation Aircraft, Aircraft Accidents, Aeronautical Production and Imports/Exports, and a Glossary of the terms used in this publication.  (THIS PUBLICATION IS NOT FOR SALE BY THE FAA)			
17 Key Words Air Carrier, Airport, Air Traffic, Airmen, Aircraft Accidents, General Aviation, Aeronautical Production.		18 Distribution Statement  DOCUMENT IS AVAILABLE TO THE PUBLIC THROUGH THE NATIONAL TECHNICAL INFORMATION SERVICE SPRINGFIELD VIRGINIA 22161	
19 Security Classif (of this report)  UNCLASSIFIED	20 Security Classif (of this page)  UNCLASSIFIED	21 No of Pages  182	22 Page

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**FAA Statistical Handbook of Aviation** is a convenient source for historical data. It presents statistical information pertaining to the Federal Aviation Administration, the National Airspace System, Airports, Airport Activity, U.S. Civil Air Carrier Fleet, U.S. Civil Air Carrier Operating Data, Airmen, General Aviation Aircraft, Aircraft Accidents, Aeronautical Production & Import/Export.

Reporting period:.....	Calendar Year
Latest edition: .....	1989 data
Order from:.....	U.S. Government Printing Office or National Technical Information Service
Date 1990 information will be available:.....	Various
Date next publication is scheduled: .....	November 1991 (1990 data)
Person to contact:.....	Patricia Beardsley

**U.S. Civil Airmen Statistics** is an annual study of detailed airmen statistics. It contains calendar year statistics on pilot and nonpilots and the number of certificates issued.

Reporting period:.....	Calendar Year
Latest edition: .....	1989
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Date 1991 information will be available:.....	February 1991
Date next publication is scheduled: .....	March 1991 (1990 data)
Person to contact:.....	Patricia Carter

**Census of U.S. Civil Aircraft** is an annual publication that includes statistical data on the registered civil fleet, air carrier aircraft, and general aviation aircraft—both registered and active, detailed reports for general aviation aircraft by owner's state and county, and registered aircraft by make and model.

Reporting period:.....	Calendar Year
Latest edition: .....	1989 data
Order from:.....	U.S. Government Printing Office, or National Technical Information Service
Date 1990 information will be available:.....	May 1991
Date next publication is scheduled: .....	August 1991 (1990 data)
Person to contact:.....	Patricia Beardsley

**FAA Air Traffic Activity** furnishes terminal and en route air traffic activity information (e.g., takeoffs & landings, flight plans filed) of the National Airspace System. The data is collected/compiled from the FAA—operated Airport Traffic Control Towers, Air Route Traffic Control Centers, Flight Service Stations, Approach Control Facilities, and FAA Contract—towered airports.

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Person to contact:.....	Nancy Trembley

**General Aviation Activity and Avionics Survey** publication presents the results of the general aviation activity and avionics survey conducted to obtain information on the activity and avionics of the U.S. registered general aviation aircraft fleet. The survey reveals estimated flying time of the active general aviation aircraft, and other statistics by manufacturer/model group, aircraft type, state and region of based aircraft, and primary use. Estimates are included on fuel consumption, lifetime airframe hours, avionics, and engine hours.

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Person to contact:.....	Shung-Chai Huang

**FAA Directory** is published twice a year it contains six sections of data: Washington/Region/Center headquarters' managers; field facilities' managers/supervisors; regional area maps/organizational charts; alphabetical listing; special interest groups; and glossary.

Latest edition:.....	May 1990
Order from:.....	U.S. Government Printing Office
Date next publication is scheduled:.....	November 1990
Person to contact:.....	Alfredia Brooks

**Airport Activity Statistics of Certificated Route Air Carrier** is a joint publication of the Federal Aviation Administration (FAA) and the Research & Special Programs Administration (RSPA). RSPA furnishes airport activity data on certificated route air carriers; FAA organizes/publishes it. Included in the data are passenger enplanements, tons of enplaned freight, express and mail. Both scheduled/nonscheduled service and domestic/international operations shown by airport and carrier are also included. Breakdown of data includes departures/enplanements/cargo/mail by airport, carrier & type of operation, and type of aircraft.

Reporting period:.....	Calendar Year
Latest edition:.....	1989 data
Order from:.....	U.S. Government Printing Office or National Technical Information Service
Date 1990 information will be available:.....	July 1990
Date next publication is scheduled:.....	September 1991 (1990 data)
Person to contact:.....	Patricia Beardsley

## PREFACE

The FAA Statistical Handbook of Aviation is published annually by the Federal Aviation Administration (FAA). Its prime purpose is to serve as a convenient source for historical data and to assist in evaluating progress.

The Handbook should provide a valuable source of information for the Department of Transportation (DOT), operating offices of the FAA, the Research and Special Programs Administration (RSPA), and other government agencies, as well as nongovernment organizations interested in aviation.

Chapter I deals with the FAA and its functions. This section also includes a comparison of the agency's appropriations and the agency's personnel complement.

National Airspace System data reflecting the fiscal and calendar year workload of the FAA air traffic facilities—terminal and en route—are contained in Chapter II. This chapter contains air traffic activity reported by FAA-operated airport traffic control towers, air route traffic control centers, and domestic and international flight service stations.

Selected statistics concerning the Nation's airport facilities are presented in Chapter III by state within FAA regions. In addition to the total count of these facilities, this chapter includes statistics pertaining to the physical characteristics (paved vs. unpaved runways, lighted vs. unlighted runways, length of runways, etc.), and funds allocated for airport development.

Airline passenger, cargo, and freight statistics shown in Chapter IV were prepared from data published in Airport Activity Statistics of Certificated Route Air Carriers, which is issued jointly by the RSPA and the FAA. This chapter covers the activity of the large scheduled certificated air carriers only.

The U.S. civil air carrier fleet is described in detail in Chapter V. These statistics were developed from monthly Aircraft/Engine Utilization Reports submitted by the air carrier operators. The aircraft population discussed here is not an inventory of the aircraft owned by the air carriers, but represents the aircraft reported in air carrier use during the last quarter of the year.

U.S. civil air carrier operating data—revenue passenger miles flown, available seat-miles, enplanements, revenue ton-miles flown, revenue aircraft miles flown, and operating revenues and expenses of the large certificated air carriers—are presented in Chapter VI. These statistics were obtained from forms submitted by the large certificated route air carriers to the RSPA. Also included in Chapter VI are traffic statistics for the small certificated and commuter air carriers.

The airmen data shown in Chapter VII were obtained from official airmen certification records maintained by the FAA's Mike Monroney Aeronautical Center in Oklahoma City, Oklahoma. These data included the number of airmen as of the end of each year and the number of certificates issued during the year.

The general aviation aircraft data presented in Chapter VIII were collected from the General Aviation Activity and Avionics Survey. Numbers of active aircraft and hours flown are shown for each aircraft type, use category and state.

Aircraft accident information for air carriers, commuters, air taxis, and general aviation, appear in Chapter IX. These data were furnished by the National Transportation Safety Board (NTSB).

Aeronautical production and imports/exports are summarized in Chapter X. The production information was obtained from reports submitted to the U.S. Bureau of the Census by all known producers of complete aircraft and aircraft engines. Import/export data were obtained through Aerospace Industries Association, Inc. based on Bureau of the Census data from special monthly compilation of annual reports FT-446 and FT-410, respectively.

The FAA Statistical Handbook of Aviation is prepared by the Statistical Analysis Branch, Management Standards and Statistics Division, Office of Management Systems, with the cooperation of other FAA offices. Special appreciation is expressed to the Research and Special Programs Administration, U.S. Bureau of the Census, the National Transportation Safety Board, and many municipalities and private organizations for their assistance.

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## I. THE FEDERAL AVIATION ADMINISTRATION

The Department of Transportation Act of 1966 established a new executive department known as the Department of Transportation. The general welfare, economic growth, stability, and security of the nation pointed to the need for the development of national transportation policies and programs effectively using the nation's transportation resources. The Act provided for inclusion of the Federal Aviation Agency in the Department as the Federal Aviation Administration.

Directed by an Administrator, who is appointed by the President, by and with the advice and consent of the Senate, the FAA has as its primary function the fostering of the development and safety of American aviation. More specifically, the FAA is responsible for developing the major policies necessary to guide the long-range growth of civil aviation; modernizing the air traffic control system; establishing in a single authority the essential management functions necessary to support the common needs of civil and military operations; providing for the most effective and efficient use of the airspace over the United States; and for the rule making responsibilities relative to these functions.

The FAA constructs, operates, and maintains the National Airspace System and the facilities which are a part of the system; it allocates and regulates the use of the airspace; it ensures adequate separation between aircraft operating in controlled airspace; and, through research and development programs, it provides new systems and equipment for improving utilization of the nation's airspace.

The Federal Aid to Airports Program (FAAP) authorized the FAA to make grants of federal funds to sponsors for airport development and for advanced planning and engineering. Under FAAP, approximately \$1.2 billion were granted by FAA to airport sponsors for airport development purposes from 1947 through 1970. FAAP was superseded by the Airport Development Act of 1970, the Airport and Airway Improvement Act of 1982, and the Airport and Airway Safety and Capacity Expansion Act of 1987 which amended the Airport and Airway Improvement Act of 1982.

The FAA prescribes and administers rules and regulations concerning airmen competency, aircraft airworthiness, and air traffic control. It promotes safety through certification of airmen, aircraft, and flight and aircraft maintenance schools. It reviews the design, structure, and performance of new aircraft to insure the safety of the flying public.

Services provided by FAA toward the development of aviation and air commerce include:

- Dissemination of news and information on civil aviation generally.

- Publication of flight information data for pilots.

- Technical aviation assistance to other governments, operation of overseas civil aviation missions, and the aviation training of foreign nationals.

- Development of medical standards for airmen through aviation medical research.

- Research and development in the field of aeronautics and electronics.

- Other activities required to encourage and foster the worldwide development of civil aviation and air commerce.

Policies governing these programs are developed in the Washington headquarters of FAA, and are executed by field employees.

The FAA has nine regional offices strategically located throughout the United States as well as the FAA Technical Center at Atlantic City, New Jersey, and the Mike Monroney Aeronautical Center at Oklahoma City, Oklahoma.

**TABLE 1.1**  
**FAA BUDGET AUTHORITY**  
**FISCAL YEARS 1986-1990**  
(\$ In Millions)

Appropriation	1986	1987	1988	1989	1990
<b>Total</b> .....	<b>4,869.3</b>	<b>4,946.1</b>	<b>6,147.0</b>	<b>6,589.7</b>	<b>7,368.0</b>
Operations (General Fund) .....	2,237.4	2,302.8	2,322.6	2,974.2	3,018.2
Operations (Airport and Airway Trust Fund) .....	426.8	621.2	827.4	471.3	807.2
Headquarters Administration.....	60.3	35.1	35.5	0.0 <sup>2</sup>	0.0 <sup>2</sup>
Facilities and Equipment (Airport and Airway Trust Fund) .....	895.1	804.6	1,108.1	1,384.2	1,721.2
Grants-in-Aid for Airports (Airport and Airway Trust Fund) Contract Authority .....	973.3	1,017.2	1,688.0	1,600.0	1,651.2
(Obligation Limitation) .....	(885.2)	(1,025.0)	(1,268.7)	(1,400.0)	(1,425.0)
Research, Engineering and Development (Airport and Airway Trust Fund) .....	237.1	141.7	153.4	160.0	170.2
Metropolitan Washington Airports.....	39.3	23.5 <sup>1</sup>	0.0 <sup>1</sup>	0.0 <sup>1</sup>	0.0 <sup>1</sup>

<sup>1</sup> Metropolitan Washington Airports transferred to Regional Authority, June 1987.

<sup>2</sup> Headquarters Administration included in the Operations appropriation in fiscal years 1989 and 1990.

**TABLE 1.2**  
**FAA CIVILIAN EMPLOYEES AT END OF FISCAL AND**  
**CALENDAR YEARS 1980-1989**  
(See Note Below)

Date	Full Time Permanent				Total
	FAA Total Paid	Washington Office	Washington Field <sup>1</sup>	Other Field	
9/80.....	55,361	2,060	918	50,560	53,538
12/80.....	55,340	2,069	942	50,500	53,511
9/81.....	42,590	1,951	185	39,123	41,259
12/81.....	44,640	1,940	190	40,378	42,508
9/82.....	46,511	1,868	173	42,929	44,970
12/82.....	46,897	1,866	168	43,415	45,449
9/83.....	46,922	1,906	155	45,317	45,317
12/83.....	46,993	1,911	144	43,266	45,321
9/84.....	47,216	1,943	116	43,733	45,792
12/84.....	47,178	1,959	130	43,810	45,899
9/85.....	47,138	2,012	132	43,651	45,795
12/85.....	47,245	2,033	136	43,660	45,829
9/86.....	46,682	2,022	140	43,477	45,639
12/86.....	46,809	2,050	144	43,438	45,632
9/87.....	47,897	2,142	152	44,204	46,498
12/87.....	47,907	2,156	157	44,148	46,461
9/88.....	49,002	2,267	159	45,119	47,545
12/88.....	49,210	2,315	158	45,237	47,710
9/89.....	50,875	2,474	159	46,753	49,386
12/89.....	50,977	2,630	172	46,716	49,518

<sup>1</sup> Beginning with 1981 employees from National and Dulles Airports are reported under "Other Field". In 1987, these employees were transferred to the Regional Authority.

**NOTE:** FAA Total Paid includes full-time, part-time, and intermittent. Full-time includes permanent paid full-time employees who occupy permanent positions. Washington Office includes all paid Washington headquarters employees whose duty station is Washington, D.C. Washington Field includes all paid Washington, D.C. employees in other states, or foreign countries. Other Field includes all paid employees whose duty stations are in the regions or centers.

**TABLE 1.3**  
**NUMBER OF TOTAL PAID FAA EMPLOYEES**  
**AS OF DECEMBER 31, 1980-1989**

Occupation	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
<b>Total.....</b>	<b>55,340</b>	<b>44,640</b>	<b>46,897</b>	<b>46,993</b>	<b>47,178</b>	<b>47,245</b>	<b>46,809</b>	<b>47,907</b>	<b>49,210</b>	<b>50,977</b>
Air Traffic Control Specialists.....	27,190	17,418	20,906	21,271	21,759	22,114	22,036	22,651	23,520	24,368
Electronics Technicians.....	8,871	8,432	8,031	7,633	7,229	6,856	6,600	6,788	6,627	6,508
Aviation Safety Inspectors.....	2,038	1,942	1,835	1,805	1,945	1,897	2,204	2,350	2,499	2,766
Engineers.....	2,436	2,274	2,238	2,313	2,419	2,450	2,417	2,579	2,640	2,657
All Others.....	14,805	14,574	13,887	13,971	13,826	13,928	13,552	13,539	13,924	14,678



## II. THE NATIONAL AIRSPACE SYSTEM

This chapter furnishes terminal and en route air traffic activity information for the National Airspace System for fiscal and calendar years. The data have been reported by the FAA-operated Airport Traffic Control Towers, Air Route Traffic Control Centers, and flight service facilities (Flight Service Stations, Automated Flight Service Stations and International Flight Service Stations). These reports are used as a guide in determining the need for larger or additional facilities, and possible changes in the number of personnel at existing facilities.

Terminal information includes airport operations, instrument operations, and instrument approaches. Airport operations are landings and takeoffs. They are reported by towers by aviation categories--air carrier, air taxi, general aviation, and military. Instrument operations are takeoffs, landings, and overflights of aircraft operating in accordance with an IFR flight plan. Instrument approaches are approaches made to an airport by an aircraft on an IFR flight plan under IFR weather conditions.

Data for Air Route Traffic Control Centers (ARTCCs) include departures, overflights, and aircraft handled.

Activities for Flight Service Stations, Automated Flight Service Stations and International Flight Service Stations include flight plans originated, airport advisories, pilot briefs, and aircraft contacted.

More detailed data pertaining to activity of these facilities may be found in *FAA Air Traffic Activity*.

**TABLE 2.1<sup>1</sup>**  
**U.S. AIR ROUTE AIRWAY MILEAGE:**  
**1980-1989**  
(Contiguous 48 States)

December 31	Very High Frequency VOR/VORTAC		
	Low Altitude		Jet Routes
	Direct	Alternate	
1980.....	159,008	31,409	137,503
1981.....	160,823	29,137	138,550
1982.....	167,637	20,067	138,438
1983.....	169,471	15,359	139,477
1984.....	171,873	12,188	141,199
1985.....	182,182	3,306	142,658
1986.....	184,229	905	146,869
1987.....	184,644	543	147,678
1988.....	185,166	543	149,057
1989.....	185,637	470	150,496

<sup>1</sup> Mileage shown in nautical miles based on National Ocean Survey figures.

**TABLE 2.2**  
**FAA AIR ROUTE FACILITIES AND SERVICES:**  
**1980-1989**

December 31	VOR/ VORTAC	Nondirec- tional Radio Beacons	Air Route Traffic Control Centers	Airport Traffic Control Towers	Flight Service Stations	International Flight Service Stations	Instrument Landing Systems	Radar Equipment
1980.....	1,037	1,055	25	502	317	6	796	192
1981.....	1,033	1,123	25	501	316	6	840	199
1982.....	1,029	1,143	25	492	316	6	884	197
1983.....	1,032	1,183	25	494	316	5	934	197
1984.....	1,035	1,211	25	497	310	5	955	197
1985.....	1,039	1,222	25	500	302	4	968	198
1986.....	1,043	1,239	25	686	293	3	977	312
1987.....	1,045	1,262	25	686	253	3	1,111	312
1988.....	1,043	1,287	24	692	220	3	1,130	311
1989.....	1,044 <sup>1</sup>	1,263 <sup>2</sup>	24 <sup>3</sup>	693 <sup>4</sup>	199	3	1,147 <sup>5</sup>	312 <sup>6</sup>

<sup>1</sup> Includes 73 nonfederal and 38 military.

<sup>2</sup> Includes 919 nonfederal and 65 military.

<sup>3</sup> Includes 3 combined center/radar approach control facilities (CERAP).

<sup>4</sup> Includes 67 nonfederal and 209 military.

<sup>5</sup> Includes 18 Landing Directional Aids (LDA), 124 nonfederal, 20 military, 178 partial, 7 Interim Microwave Landing Systems (ISMLS), and 36 Simplified Direction Finders (SDF).

<sup>6</sup> Includes FAA, military and non federal

**FISCAL YEARS**  
**(TABLES 2.3-2.10)**

**TABLE 2.3**  
**AIR TRAFFIC ACTIVITY AT AIR ROUTE TRAFFIC CONTROL CENTERS,**  
**BY AVIATION CATEGORY**  
**FISCAL YEARS 1985-1989**

	Year	Aircraft Handled									
		Total		Air Carrier		Air Taxi		General Aviation		Military	
		Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change
IFR Aircraft Handled <sup>1</sup>	1989	36,617,064	+1%	17,524,155	-2%	5,187,998	-11%	8,197,964	+2%	5,706,947	+25%
	1988	36,350,374	+2%	17,885,859	+5%	5,834,717	+10%	8,053,133	-1%	4,576,665	-14%
	1987	35,794,403	+5%	17,115,080	+7%	5,283,267	+5%	8,102,631	+1%	5,293,425	+4%
	1986	34,177,045	+4%	16,009,336	+9%	5,020,069	+5%	8,054,741	-3%	5,092,899	+3%
	1985	32,708,709	+4%	14,627,050	+4%	4,795,199	+10%	8,329,512	+1%	4,956,948	+2%
IFR Departures	1989	13,856,587	+ <sup>3</sup>	6,045,411	-2%	2,467,571	-10%	3,418,090	+2%	1,925,515	-22%
	1988	13,803,103	+ <sup>3</sup>	6,146,443	+2%	2,741,782	+12%	3,355,842	-1%	2,458,714	+5%
	1987	13,768,267	+4%	6,043,020	+6%	2,458,714	+5%	3,392,926	- <sup>3</sup>	1,873,607	+5%
	1986	13,245,340	+4%	5,719,626	+9%	2,335,006	+5%	3,398,856	-4%	1,791,852	+2%
	1985	12,784,292	+4%	5,261,858	+5%	2,232,782	+9%	3,535,541	+1%	1,754,111	+2%
IFR Overs <sup>2</sup>	1989	8,903,890	+2%	5,433,333	-3%	252,856	-28%	1,361,784	+2%	1,855,917	+27%
	1988	8,744,168	+6%	5,592,973	+11%	351,153	-4%	1,341,449	+2%	1,458,593	-6%
	1987	8,257,869	+7%	5,029,040	+10%	365,839	+5%	1,316,779	+5%	1,546,211	+2%
	1986	7,686,365	+8%	4,570,084	+11%	350,057	+6%	1,257,029	- <sup>3</sup>	1,509,195	+4%
	1985	7,140,125	+2%	4,103,334	+1%	329,635	+21%	1,258,430	-2%	1,448,726	-1%

<sup>1</sup> The number of IFR Departures multiplied by two, plus the number of IFR Overs.

<sup>2</sup> Domestic plus oceanic overs.

<sup>3</sup> Less than 0.5 percent.

**TABLE 2.4**  
**AIR TRAFFIC ACTIVITY AT AIRPORT TRAFFIC CONTROL TOWERS,**  
**BY AVIATION CATEGORY**  
**FISCAL YEARS 1985-1989**

	Year	Airport Operations									
		Total		Air Carrier		Air Taxi		General Aviation		Military	
		Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change
Total Airport Operations	1989	61,345,173	+ <sup>1</sup>	12,519,891	-2%	8,296,725	+1%	37,753,005	+1%	2,775,552	- <sup>1</sup>
	1988	61,299,017	+1%	12,752,997	-2%	8,255,279	+12%	37,503,249	-1%	2,787,492	+2%
	1987	60,976,559	+3%	13,062,061	+6%	7,347,057	+6%	37,830,524	+2%	2,736,917	+4%
	1986	58,956,464	+2%	12,300,371	+9%	6,915,478	- <sup>1</sup>	37,100,657	- <sup>1</sup>	2,639,958	+4%
	1985	57,937,465	+2%	11,281,308	+4%	6,916,241	+5%	37,191,215	+1%	2,548,701	+4%
Itinerant Operations	1989	44,307,914	- <sup>1</sup>	12,519,891	-2%	8,296,725	+1%	22,078,592	- <sup>1</sup>	1,412,706	- <sup>1</sup>
	1988	44,521,425	+1%	12,752,997	-2%	8,255,279	+12%	22,096,026	+ <sup>1</sup>	1,417,123	+3%
	1987	43,869,898	+3%	13,062,061	+6%	7,347,057	+6%	22,078,782	+1%	1,381,998	+2%
	1986	42,515,777	+2%	12,300,371	+9%	6,915,478	- <sup>1</sup>	21,942,188	-2%	1,357,740	+5%
	1985	41,864,894	+2%	11,281,308	+4%	6,916,241	+5%	22,373,031	+ <sup>1</sup>	1,294,314	+5%
Local Operations	1989	17,037,259	+2%	---	---	---	---	15,674,413	+2%	1,362,846	-1%
	1988	16,777,592	-2%	---	---	---	---	15,407,223	-2%	1,370,369	+1%
	1987	17,106,661	+4%	---	---	---	---	15,751,742	+4%	1,354,919	+6%
	1986	16,440,687	+2%	---	---	---	---	15,158,469	+2%	1,282,218	+2%
	1985	16,072,571	+1%	---	---	---	---	14,818,184	+1%	1,254,387	+4%

<sup>1</sup> Less than 0.5 percent.

**TABLE 2.5**  
**AIR TRAFFIC ACTIVITY AT FAA FACILITIES,**  
**BY AVIATION CATEGORY**  
**FISCAL YEARS 1985-1989**

	Year	Total		Air Carrier		Air Taxi		General Aviation		Military	
		Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change
Total Instrument Operations	1989	45,225,344	+2%	13,567,597	+1%	8,625,280	+2%	18,794,460	+3%	4,238,007	-4%
	1988	44,544,281	+3%	13,422,772	-2%	8,449,004	+15%	18,269,083	+2%	4,403,422	-1%
	1987	43,407,628	+7%	13,730,330	+8%	7,320,676	+10%	17,914,358	+7%	4,442,264	+3%
	1986	40,466,365	+5%	12,752,823	+9%	6,626,572	+4%	16,787,756	+2%	4,299,214	+4%
	1985	38,702,396	+4%	11,751,323	+4%	6,390,297	+7%	16,428,676	+3%	4,132,100	+4%
Total Instrument Approaches	1989	2,308,880	+21%	865,456	+25%	509,982	+14%	793,572	+20%	139,870	+25%
	1988	1,914,612	-17%	692,218	-20%	447,950	-7%	662,965	-19%	111,479	-17%
	1987	2,306,401	-10%	870,189	-14%	483,441	-4%	818,163	-12%	134,608	-3%
	1986	2,570,631	17%	1,003,540	+31%	501,474	+8%	927,007	+11%	138,610	+9%
	1985	2,196,181	-3%	767,729	-1%	463,204	-4%	837,663	-6%	127,585	-1%
Total Instrument Approaches at Control Facilities <sup>2</sup>	1989	2,126,745	+23%	853,328	+26%	452,821	+20%	697,751	+23%	122,845	+24%
	1988	1,723,434	-19%	678,902	-20%	378,679	-11%	567,154	-22%	98,699	-20%
	1987	2,123,347	-11%	853,670	-14%	423,214	-4%	723,447	-13%	123,016	-3%
	1986	2,384,088	+17%	987,835	+31%	440,339	8%	829,273	+11%	126,641	+10%
	1985	2,029,327	-3%	754,812	-1%	409,177	-6%	750,387	-5%	114,951	+6%

<sup>1</sup> Less than 0.5 percent.

<sup>2</sup> Excludes instrument approaches provided by Air Route Traffic Control Centers.

**TABLE 2.6**  
**AIR TRAFFIC ACTIVITY AT FLIGHT SERVICE FACILITIES**  
**FISCAL YEARS 1985-1989**

	Year	Flight Services <sup>1</sup>		Flight Plans Originated				Airport Advisories		Pilot Briefs	
		Total	Annual Change	Total	Annual Change	IFR-DVFR	Annual Change	VFR	Annual Change	Total	Annual Change
Flight Service Stations	1989	44,982,988	+ <sup>2</sup>	7,399,246	-2%	5,717,061	-2%	1,682,185	-2%	1,678,654	-14%
	1988	44,849,559	-8%	7,551,860	-1%	5,837,514	-2%	1,714,146	+1%	1,953,323	-19%
	1987	47,747,493	-3%	7,643,574	+2%	5,843,542	+1%	1,700,032	+5%	2,414,289	-7%
	1986	48,982,535	-7%	7,517,796	-6%	5,896,633	-6%	1,621,163	-5%	2,595,833	-8%
	1985	52,868,048	-4%	7,985,889	-2%	6,287,882	-2%	1,698,007	-4%	2,826,294	-5%
International Flight Service Stations	1989	1,606,231	+10%	341,132	+7%	189,654	+17%	151,478	-3%	7,222	+27%
	1988	1,468,138	+2%	318,729	+1%	162,314	+7%	156,415	-5%	5,707	-29%
	1987	1,436,354	-8%	315,299	-1%	151,314	+6%	163,985	-6%	8,039	-11%
	1986	1,562,753	-25%	317,233	-17%	142,558	-21%	174,675	-13%	9,062	-3%
	1985	2,097,001	-1%	380,168	+3%	179,428	-4%	200,740	+9%	9,339	-41%

<sup>1</sup> The sum of flight plans originated and pilot briefs, multiplied by two, plus the number of aircraft contacted (see Table 2.7). No credit is allowed for airport advisories.

<sup>2</sup> Less than 0.5 percent.

**TABLE 2.7**  
**AIRCRAFT CONTACTED AT FLIGHT SERVICE FACILITIES,**  
**BY AVIATION CATEGORY**  
**FISCAL YEARS 1985-1989**

	Year	Aircraft Contacted									
		Total		Air Carrier		Air Taxi		General Aviation		Military	
		Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change
<b>Flight Service Stations</b>	1989	6,159,758	-4%	250,448	-12%	842,529	-8%	4,636,741	-4%	430,040	+2%
	1988	6,428,781	-8%	284,210	-20%	911,119	-4%	4,811,707	-8%	421,745	-6%
	1987	6,959,195	-3%	354,388	-5%	948,407	-5%	5,208,721	-3%	447,679	+4%
	1986	7,184,075	-7%	372,223	-4%	998,498	-9%	5,382,619	-8%	430,735	+1%
	1985	7,738,536	-5%	386,479	-7%	1,101,020	+ <sup>1</sup>	5,826,387	-6%	424,650	+1%
IFR-DVFR	1989	1,904,467	+2%	236,663	-14%	414,032	-2%	1,086,693	+6%	167,079	+9%
	1988	1,872,454	-8%	275,321	-17%	422,651	- <sup>1</sup>	1,020,546	-10%	153,936	-3%
	1987	2,042,270	-2%	331,368	-4%	423,643	-2%	1,129,239	-3%	158,020	+9%
	1986	2,087,519	-6%	345,735	-1%	432,683	-6%	1,163,883	-7%	145,218	-3%
	1985	2,211,819	-3%	349,104	-3%	460,369	+ <sup>1</sup>	1,253,174	-5%	149,172	+3%
VFR	1989	4,255,291	-7%	13,785	+55%	428,497	-12%	3,550,048	-6%	262,961	-2%
	1988	4,556,327	-7%	8,889	-61%	488,468	-7%	3,791,161	-7%	267,809	-8%
	1987	4,916,925	-4%	23,020	-13%	524,764	-7%	4,079,482	-3%	289,659	+1%
	1986	5,096,556	-8%	26,488	-29%	565,815	-12%	4,218,736	-8%	285,517	+4%
	1985	5,526,717	-6%	37,375	-35%	640,651	- <sup>1</sup>	4,573,213	-6%	275,478	- <sup>1</sup>
<b>International Flight Service Stations</b>	1989	325,247	+11%	12,904	+ <sup>1</sup>	68,793	-11%	236,361	+20%	7,189	+10%
	1988	293,058	-10%	12,861	+14%	77,175	-22%	196,503	-5%	6,519	-3%
	1987	325,116	-15%	11,251	+6%	99,531	-32%	207,605	-4%	6,729	+3%
	1986	380,257	-18%	10,649	+16%	147,159	-5%	215,941	-26%	6,508	-14%
	1985	461,801	-11%	9,142	-86%	154,434	+7%	290,684	-3%	7,541	-29%
IFR-DVFR	1989	44,584	+12%	12,838	+ <sup>1</sup>	7,071	+28%	21,848	+16%	2,827	+10%
	1988	39,838	+8%	12,837	+20%	5,541	+33%	18,901	-3%	2,559	-3%
	1987	36,995	-1%	10,712	+3%	4,171	+40%	19,461	-10%	2,651	+17%
	1986	37,221	-3%	10,415	+17%	2,979	-42%	21,562	-2%	2,265	-10%
	1985	38,490	-59%	8,927	-86%	5,121	+20%	21,935	+19%	2,507	-59%
VFR	1989	280,663	+11%	66	+175%	61,722	-14%	214,513	+21%	4,362	+10%
	1988	253,220	-12%	24	-96%	71,634	-25%	177,602	-6%	3,960	-3%
	1987	288,121	-16%	539	+30%	95,360	-34%	188,144	-3%	4,078	-4%
	1986	343,036	-19%	234	+9%	144,180	-3%	194,379	-28%	4,243	-16%
	1985	423,311	-1%	215	-50%	149,313	-7%	286,749	-4%	5,034	+11%

<sup>1</sup> Less than 0.5 percent.

**TABLE 2.8**  
**TOP 25 FAA-OPERATED AIRPORT TRAFFIC CONTROL TOWERS,**  
**BY RANK ORDER OF TOTAL OPERATIONS**  
**AND BY AVIATION CATEGORY INCLUDING AIR CARRIER RANK**  
**FISCAL YEAR 1989**

Tower	Total		Air Carrier		Air Taxi	General Aviation	Military
	Rank	Operations	Rank	Operations			
Chicago O'Hare Int'l.....	1	789,384	1	620,090	137,441	28,266	3,587
Dallas Ft. Worth Reg'l.....	2	693,614	2	505,822	168,258	18,501	1,033
Atlanta International.....	3	669,543	3	478,290	165,223	24,730	1,300
Los Angeles International.....	4	632,237	4	427,419	151,785	47,981	5,052
Santa Ana.....	5	533,522	55	62,302	27,727	438,161	5,332
Van Nuys.....	6	499,087	262	21	774	496,473	1,819
Fort Worth Meacham.....	7	492,743	235	148	1,599	490,512	484
Phoenix Sky Harbor Int'l.....	8	479,790	7	285,493	66,214	119,977	8,106
Denver Stapleton Int'l.....	9	468,490	5	323,165	104,560	38,911	1,854
Long Beach.....	10	462,177	94	20,048	7,656	431,683	2,790
San Francisco.....	11	434,298	6	311,430	85,209	35,096	2,563
St. Louis Int'l.....	12	425,257	8	283,436	93,644	39,768	8,409
Charlotte Douglas.....	13	424,017	16	229,199	111,862	79,150	3,806
Boston Logan.....	14	417,111	14	239,281	131,519	45,992	319
Honolulu.....	15	406,110	20	195,981	67,022	99,641	43,466
Seattle Boeing.....	16	404,626	143	7,934	20,376	373,365	2,951
Oakland International.....	17	403,213	49	74,682	57,281	270,284	966
Pontiac.....	18	401,819	241	114	8,884	392,018	803
Philadelphia Int'l.....	19	383,279	24	181,342	143,386	57,700	851
Pittsburgh Greater Int'l.....	20	378,531	12	249,081	96,751	25,898	6,801
Miami Int'l.....	21	378,257	13	247,356	55,208	70,541	5,152
Las Vegas McCarran.....	22	378,117	23	183,362	78,700	109,022	7,033
Newark.....	23	376,789	9	269,839	82,197	24,201	552
Minneapolis St. Paul Int'l.....	24	376,239	15	230,656	76,290	64,299	4,994
Detroit Metro Wayne Co.....	25	368,897	10	269,199	47,176	52,312	210

<sup>1</sup> Not applicable.

Note: Total Operations rank was based on total air traffic activity at 400 FAA-Operated Towers. Air Carrier operations rank was based on air carrier activity at 309 FAA-Operated Towers. Not all FAA-Operated Towers handle air carrier operations.

**TABLE 2.9**  
**TOP 25 FAA-OPERATED AIRPORT TRAFFIC CONTROL TOWERS,**  
**BY RANK ORDER OF AIR CARRIER OPERATIONS**  
**AND BY AVIATION CATEGORY INCLUDING TOTAL OPERATIONS RANK**  
**FISCAL YEAR 1989**

Tower	Air Carrier		Air Taxi	General Aviation	Military	Total	
	Rank	Operations				Rank	Operations
Chicago O'Hare Int'l.....	1	620,090	137,441	28,266	3,587	1	789,384
Dallas Ft. Worth Reg'l.....	2	505,822	168,258	18,501	1,033	2	693,614
Atlanta International.....	3	478,290	165,223	24,730	1,300	3	669,543
Los Angeles International.....	4	427,419	151,785	47,981	5,052	41	632,237
Denver Stapleton Int'l.....	5	323,165	104,560	38,911	1,854	9	468,490
San Francisco.....	6	311,430	85,209	35,096	2,563	11	434,298
Phoenix Sky Harbor Int'l.....	7	285,493	66,214	119,977	8,106	8	479,790
St. Louis Int'l.....	8	283,436	93,644	39,768	8,409	12	425,257
Newark.....	9	269,839	82,197	24,201	552	23	376,789
Detroit Metro Wayne Co.....	10	269,199	47,176	52,312	210	25	368,897
La Guardia.....	11	262,784	65,426	26,904	454	27	355,568
Pittsburgh Greater Int'l.....	12	249,081	96,751	25,898	6,801	20	378,531
Miami Int'l.....	13	247,356	55,208	70,541	5,152	21	378,257
Boston Logan.....	14	239,281	131,519	45,992	319	14	417,111
Minneapolis St. Paul Int.....	15	230,656	76,290	64,299	4,994	24	376,239
Charlotte Douglas.....	16	229,199	111,862	79,150	3,806	13	424,017
John F. Kennedy Int'l.....	17	220,467	91,220	24,339	705	29	336,731
Houston Intercontinental.....	18	207,163	44,601	41,217	1,030	36	294,011
Memphis International.....	19	197,470	58,303	71,731	6,957	30	334,461
Honolulu.....	20	195,981	67,022	99,641	43,466	15	406,110
Orlando International.....	21	190,921	48,726	41,558	4,432	38	285,637
Washington National.....	22	185,580	55,962	74,346	250	33	316,138
Las Vegas McCarran.....	23	183,362	78,700	109,022	7,033	22	378,117
Philadelphia Int'l.....	24	181,342	143,386	57,700	851	19	383,279
Seattle Tacoma.....	25	180,145	134,012	13,248	400	31	327,805

Note: Total Operations rank was based on total air traffic activity at 400 FAA-Operated Towers. Air Carrier operations rank was based on air carrier activity at 309 FAA-Operated Towers. Not all FAA-Operated Towers handle air carrier operations.



**TABLE 2.10**  
**TOTAL FAA AIR TRAFFIC ACTIVITY BY REGION AND STATE,**  
**AND BY FAA-OPERATED TOWERS, AIR ROUTE TRAFFIC CONTROL CENTERS,**  
**FLIGHT SERVICE STATIONS, AND INTERNATIONAL FLIGHT SERVICE STATIONS**  
**FISCAL YEAR 1989**

FAA Region and State	Airport Operations (Towers)	Aircraft Handled (Centers)	Aircraft Contacted		Total Flight Services	
			Flight Service Stations	Int'l Flight Service Station	Flight Service Station	Int'l Flight Service Station
<b>TOTAL</b>	<b>61,345,173</b>	<b>36,617,064</b>	<b>6,159,758</b>	<b>325,247</b>	<b>44,982,988</b>	<b>1,608,231</b>
<b>Alaskan—Total</b>	<b>1,045,247</b>	<b>450,804</b>	<b>959,571</b>	—	<b>2,375,249</b>	—
<b>Central—Total</b>	<b>2,465,785</b>	<b>1,794,000</b>	<b>372,156</b>	—	<b>3,176,454</b>	—
Iowa	451,271	—	54,690	—	590,446	—
Kansas	507,918	—	85,075	—	647,797	—
Missouri	1,214,505	1,794,000	155,384	—	1,494,702	—
Nebraska	292,091	—	77,007	—	443,509	—
<b>Eastern—Total</b>	<b>8,120,921</b>	<b>4,081,621</b>	<b>506,742</b>	—	<b>5,973,892</b>	—
Delaware	205,785	—	—	—	—	—
District of Columbia	316,138	2,181,734	82,125	—	1,065,259	—
Maryland	529,003	—	45,437	—	96,539	—
New Jersey	1,323,844	—	53,585	—	970,755	—
New York	2,502,773	1,899,887	84,558	—	1,285,212	—
Pennsylvania	1,930,558	—	144,442	—	1,680,820	—
Virginia	945,524	—	15,244	—	260,570	—
West Virginia	367,296	—	81,351	—	614,737	—
<b>Great Lakes—Total</b>	<b>9,895,578</b>	<b>8,574,590</b>	<b>774,374</b>	—	<b>7,459,636</b>	—
Illinois	2,888,201	2,499,252	96,819	—	1,098,567	—
Indiana	826,494	2,018,402	79,643	—	1,037,539	—
Michigan	2,052,557	—	89,697	—	1,183,799	—
Minnesota	1,039,407	1,675,939	140,627	—	813,743	—
North Dakota	491,318	—	46,748	—	425,332	—
Ohio	1,525,120	2,380,997	100,995	—	1,719,063	—
South Dakota	155,116	—	100,079	—	376,879	—
Wisconsin	917,365	—	119,766	—	804,714	—
<b>New England—Total</b>	<b>3,469,004</b>	<b>1,665,650</b>	<b>158,136</b>	—	<b>2,138,286</b>	—
Connecticut	859,207	—	75,601	—	1,130,171	—
Maine	239,657	—	36,238	—	470,630	—
Massachusetts	1,823,185	1,665,650	—	—	—	—
New Hampshire	199,932	—	3,616	—	23,442	—
Rhode Island	200,491	—	—	—	—	—
Vermont	146,532	—	42,681	—	514,043	—
<b>Northwest Mountain—Total</b>	<b>5,232,944</b>	<b>4,139,459</b>	<b>837,343</b>	—	<b>3,958,997</b>	—
Colorado	1,358,688	1,464,915	139,039	—	835,993	—
Idaho	351,886	—	53,871	—	267,303	—
Montana	315,252	—	155,258	—	473,908	—
Oregon	909,092	—	116,610	—	614,496	—
Utah	386,607	1,295,661	69,412	—	345,104	—
Washington	1,787,700	1,378,883	202,887	—	1,104,293	—
Wyoming	123,719	—	100,266	—	317,900	—
<b>Southern—Total</b>	<b>11,122,008</b>	<b>7,364,384</b>	<b>1,011,905</b>	<b>325,247</b>	<b>9,302,251</b>	<b>1,608,231</b>
Alabama	620,227	—	117,224	—	978,222	—
Florida	5,038,820	3,313,469	282,242	231,493	2,513,240	1,346,283
Georgia	1,395,172	2,222,136	108,514	—	1,391,820	—
Kentucky	711,791	—	71,068	—	567,888	—
Mississippi	304,101	—	50,309	—	421,289	—
North Carolina	1,194,322	—	168,766	—	1,364,092	—
Puerto Rico	277,705	—	—	93,754	—	261,948
South Carolina	440,016	—	74,176	—	837,006	—
Tennessee	961,716	1,828,779	139,606	—	1,228,694	—
Virgin Islands	178,138	—	—	—	—	—
<b>Southwest—Total</b>	<b>6,644,192</b>	<b>5,009,335</b>	<b>686,954</b>	—	<b>5,483,042</b>	—
Arkansas	317,793	—	79,681	—	557,385	—
Louisiana	954,713	—	41,368	—	611,452	—
New Mexico	402,788	1,430,228	143,035	—	560,545	—
Oklahoma	799,774	—	96,841	—	753,683	—
Texas	4,169,124	3,579,107	326,029	—	2,999,977	—
<b>Western-Pacific—Total</b>	<b>13,349,494</b>	<b>3,537,221</b>	<b>852,571</b>	—	<b>5,115,181</b>	—
American Samoa	9,358	—	—	—	—	—
Arizona	1,894,472	—	135,042	—	660,888	—
California	9,858,964	7,478,954	582,028	—	3,761,064	—
Guam	—	58,267	—	—	—	—
Hawaii	907,304	—	61,139	—	293,375	—
Nevada	660,256	—	74,362	—	399,854	—
Wake Island	19,140	—	—	—	—	—

**CALENDAR YEARS**  
**(TABLES 2.11-2.18)**

**TABLE 2.11**  
**AIR TRAFFIC ACTIVITY AT AIR ROUTE TRAFFIC CONTROL CENTERS,**  
**BY AVIATION CATEGORY**  
**CALENDAR YEARS 1985-1989**

	Year	Aircraft Handled									
		Total		Air Carrier		Air Taxi		General Aviation		Military AIRCRAFT HANDLED	
		Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change
IFR Aircraft Handled <sup>2</sup>	1989	36,704,773	+ 1%	17,600,768	-2%	5,284,042	-7%	8,126,818	+ 1%	5,693,145	+ 19%
	1988	36,383,294	+ 1%	17,869,355	+ 2%	5,662,629	+ 5%	8,066,715	- (*)	4,784,595	-8%
	1987	36,112,129	+ 5%	17,451,192	+ 8%	5,380,048	+ 5%	8,096,582	+ 1%	5,183,307	+ 1%
	1986	34,490,514	+ 4%	16,223,428	+ 9%	5,132,155	+ 6%	8,003,192	-3%	5,131,739	+ 3%
	1985	33,019,705	+ 3%	14,924,724	+ 4%	4,844,414	+ 7%	8,244,445	-1%	5,006,122	+ 2%
IFR Departures	1989	13,854,290	+ (*)	6,065,044	-1%	2,499,739	-6%	3,386,246	+ 1%	1,903,261	+ 17%
	1988	13,788,054	-1%	6,126,722	- (*)	2,671,994	+ 6%	3,358,945	-1%	1,630,393	-11%
	1987	13,866,150	+ 4%	6,139,083	+ 6%	2,516,471	+ 6%	3,384,539	+ (*)	1,826,057	+ 1%
	1986	13,338,657	+ 4%	5,782,325	+ 8%	2,380,794	+ 6%	3,370,374	-3%	1,805,164	+ 2%
	1985	12,875,279	+ 3%	5,356,781	+ 4%	2,255,695	+ 7%	3,492,284	-1%	1,770,519	+ 2%
IFR Overs <sup>3</sup>	1989	8,996,193	+ 2%	5,470,680	-3%	284,564	-11%	1,354,326	+ (*)	1,886,623	+ 24%
	1988	8,807,186	+ 5%	5,615,911	+ 9%	318,641	-8%	1,348,825	+ 2%	1,523,809	- (*)
	1987	8,379,829	7%	5,174,026	+ 11%	347,106	-6%	1,327,504	+ 5%	1,531,193	+ 1%
	1986	7,813,200	+ 7%	4,658,778	+ 11%	370,567	+ 11%	1,262,444	+ (*)	1,521,411	+ 4%
	1985	7,269,147	+ 3%	4,211,162	+ 3%	333,024	+ 12%	1,259,877	-1%	1,465,084	+ 2%

<sup>1</sup> Less than 0.5 percent.

<sup>2</sup> The number of IFR Departures multiplied by two, plus the number of IFR Overs.

<sup>3</sup> Domestic plus oceanic overs.

**TABLE 2.12**  
**AIR TRAFFIC ACTIVITY AT AIRPORT TRAFFIC CONTROL TOWERS,**  
**BY AVIATION CATEGORY**  
**CALENDAR YEARS 1985-1989**

	Year	Airport Operations									
		Total		Air Carrier		Air Taxi		General Aviation		Military AIRCRAFT HANDLED	
		Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change
Total Airport Operations	1989	61,321,964	- <sup>1</sup>	12,484,530	-2%	8,356,587	+ <sup>1</sup>	37,713,390	+ <sup>1</sup>	2,767,457	-2%
	1988	61,537,927	+ 1%	12,741,239	-3%	8,315,411	+ 10%	37,669,713	+ <sup>1</sup>	2,811,564	+ 1%
	1987	61,004,284	+ 2%	13,092,751	+ 5%	7,553,620	+ 9%	37,575,141	- <sup>1</sup>	2,782,772	+ 5%
	1986	59,754,343	+ 3%	12,523,570	+ 9%	6,945,108	- <sup>1</sup>	37,637,377	+ 2%	2,648,288	+ 3%
	1985	58,021,521	+ 1%	11,450,621	+ 3%	6,949,436	+ 3%	37,044,465	-1%	2,576,999	+ 4%
Itinerant Operations	1989	44,261,015	-1%	12,484,530	-2%	8,356,587	+ <sup>1</sup>	22,006,509	-1%	1,413,389	- <sup>1</sup>
	1988	44,659,108	+ 1%	12,741,239	-3%	8,315,411	+ 10%	22,188,943	+ 1%	1,413,515	+ 1%
	1987	44,039,814	+ 3%	13,092,751	+ 5%	7,553,620	+ 9%	21,993,252	- <sup>1</sup>	1,400,191	+ 4%
	1986	42,919,234	+ 2%	12,523,570	+ 9%	6,945,108	- <sup>1</sup>	22,098,066	-1%	1,352,490	+ 2%
	1985	42,000,109	+ 1%	11,450,621	+ 3%	6,949,436	+ 3%	22,278,498	-1%	1,321,554	+ 5%
Local Operations	1989	17,060,949	+ 1%	—	—	—	—	15,706,881	+ 1%	1,354,068	-3%
	1988	16,878,819	-1%	—	—	—	—	15,480,770	-1%	1,398,049	+ 1%
	1987	16,964,470	+ 1%	—	—	—	—	15,581,889	+ <sup>1</sup>	1,382,581	+ 7%
	1986	16,835,109	+ 5%	—	—	—	—	15,539,311	+ 5%	1,295,798	+ 3%
	1985	16,021,412	- <sup>1</sup>	—	—	—	—	14,765,967	-1%	1,255,445	+ 3%

<sup>1</sup> Less than 0.5 percent.

**TABLE 2.13**  
**AIR TRAFFIC ACTIVITY AT FAA FACILITIES,**  
**BY AVIATION CATEGORY**  
**CALENDAR YEARS 1985-1989**

	Year	Total		Air Carrier		Air Taxi		General Aviation		Military AIRCRAFT HANDLED	
		Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change
Total Instrument Operations	1989	45,055,648	+ 1	13,501,139	+ 1	8,598,447	+ 1%	18,631,727	+ 1%	4,324,335	-3%
	1988	44,858,714	- 2%	13,477,165	-2%	8,540,039	+ 13%	18,402,606	+ 2%	4,439,904	- 1
	1987	43,813,578	+ 6%	13,791,619	+ 6%	7,582,028	+ 12%	17,998,854	+ 5%	4,441,077	+ 2%
	1986	41,293,048	+ 6%	13,021,064	+ 9%	6,766,667	+ 5%	17,156,395	+ 1%	4,348,922	+ 4%
	1985	38,804,981	+ 2%	11,895,855	+ 3%	6,444,136	+ 5%	16,284,634	- 1	4,180,356	+ 4%
Total Instrument Approaches	1989	2,354,303	+ 29%	871,457	+ 36%	530,050	+ 25%	819,829	+ 26%	132,967	+ 18%
	1988	1,830,121	-12%	641,592	-20%	424,490	-8%	651,689	-8%	112,350	-3%
	1987	2,067,672	-17%	803,771	-17%	459,405	-7%	708,701	-22%	115,795	-21%
	1986	2,518,380	+ 9%	962,993	+ 15%	494,075	+ 3%	914,107	+ 5%	147,205	+ 15%
	1985	2,299,572	+ 4%	822,497	+ 6%	480,898	+ 2%	870,545	+ 2%	125,632	+ 1%
Total Instrument Approaches at Control Facilities <sup>2</sup>	1989	2,171,464	+ 32%	858,637	+ 36%	474,600	+ 32%	722,910	+ 30%	115,317	+ 17%
	1988	1,644,854	-14%	629,719	-20%	358,630	-9%	557,759	-9%	98,746	-6%
	1987	1,904,605	-18%	788,015	-17%	395,786	-9%	616,231	-25%	104,573	-22%
	1986	2,330,153	+ 9%	945,599	+ 14%	433,426	+ 2%	816,590	+ 4%	134,538	+ 16%
	1985	2,128,936	+ 3%	810,209	+ 7%	424,261	+ 1%	781,110	+ 2%	113,556	+ 1%

<sup>1</sup> Less than 0.5 percent.

<sup>2</sup> Excludes instrument approaches provided by Air Route Traffic Control Centers.

**TABLE 2.14**  
**AIR TRAFFIC ACTIVITY AT FLIGHT SERVICE FACILITIES**  
**CALENDAR YEARS 1985-1989**

	Year	Flight Services <sup>2</sup>		Flight Plans Originated <sup>1</sup>						Airport Advisories		Pilot Briefs	
		Total	Annual Change	Total	Annual Change	IFR-DVFR	Annual Change	VFR	Annual Change	Total	Annual Change	Total	Annual Change
Flight Service Stations	1989	44,568,228	-3%	7,307,687	-3%	5,657,951	-3%	1,649,736	-4%	1,659,094	-11%	11,919,181	+ 3%
	1988	46,019,119	-1%	7,533,950	-1%	5,822,918	-1%	1,711,032	-1%	1,865,295	-19%	11,572,284	-6%
	1987	46,661,663	-4%	7,601,465	+ 1%	5,878,781	+ 1	1,722,684	+ 5%	2,305,151	-11%	12,321,658	-7%
	1986	48,727,382	-6%	7,503,913	-5%	5,867,455	-5%	1,636,458	-3%	2,584,214	-7%	13,281,761	-7%
	1985	51,819,747	-5%	7,874,976	-4%	6,191,977	-4%	1,682,999	-5%	2,774,929	-6%	14,230,398	-6%
International Flight Service Stations	1989	1,643,176	+ 11%	352,797	+ 11%	203,490	- 26%	149,307	-4%	7,175	+ 26%	307,857	+ 13%
	1988	1,474,570	+ 3%	317,637	+ 1%	161,907	+ 6%	155,730	-4%	5,700	-21%	271,888	+ 11%
	1987	1,434,844	-6%	314,349	-1%	152,121	+ 5%	162,228	-6%	7,194	-23%	245,726	-7%
	1986	1,534,091	-26%	317,939	-16%	145,311	-18%	172,628	-13%	9,352	-3%	263,431	-39%
	1985	2,080,472	-1%	377,347	+ 2%	178,134	-4%	199,213	+ 7%	9,599	-65%	434,303	+ 2%

<sup>1</sup> Less than 0.5 percent

<sup>2</sup> The sum of flight plans originated and pilot briefs, multiplied by two, plus the number of aircraft contacted (see Table 2.15). No credit is allowed for airport advisories.

**TABLE 2.15**  
**AIRCRAFT CONTACTED AT FLIGHT SERVICE FACILITIES,**  
**BY AVIATION CATEGORY**  
**CALENDAR YEARS 1985-1989**

	Year	Aircraft Contacted									
		Total		Air Carrier		Air Taxi		General Aviation		Military	
		Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change	Total	Annual Change
<b>Flight Service Stations</b>	1989	6,114,492	-3%	247,916	-7%	836,570	-6%	4,601,252	-3%	428,754	+4%
	1988	6,332,081	-7%	265,482	-22%	890,071	-4%	4,763,050	-6%	413,478	-9%
	1987	6,815,417	-5%	342,138	-6%	930,059	-5%	5,087,614	-6%	455,606	+7%
	1986	7,156,034	-6%	364,183	-6%	977,917	-10%	5,388,852	-6%	425,082	-2%
	1985	7,608,999	-6%	385,568	-8%	1,087,881	-1%	5,703,345	-8%	432,205	+2%
IFR-DVFR	1989	1,892,592	+3%	234,423	-9%	412,230	-1%	1,078,147	+7%	167,792	+9%
	1988	1,838,167	-6%	257,706	-20%	415,728	-1%	1,010,437	-5%	154,296	-3%
	1987	1,964,873	-5%	321,056	-5%	417,846	-3%	1,067,407	-8%	158,564	+8%
	1986	2,073,740	-5%	339,552	-3%	429,062	-5%	1,158,869	-6%	146,257	-3%
	1985	2,180,265	-4%	351,775	-3%	450,979	-2%	1,227,469	-6%	150,042	+3%
VFR	1989	4,221,900	-6%	13,493	+74%	424,340	-11%	3,523,105	-6%	260,962	+1%
	1988	4,493,914	-7%	7,776	-63%	474,343	-7%	3,752,613	-7%	259,182	-13%
	1987	4,850,544	-5%	21,082	-14%	512,213	-7%	4,020,207	-5%	297,042	+7%
	1986	5,082,294	-6%	24,631	-27%	548,855	-14%	4,229,983	-5%	278,825	-1%
	1985	5,428,734	-7%	33,793	-62%	636,902	-1	4,475,876	-8%	282,163	+1%
<b>International Flight Service Stations</b>	1989	321,868	+9%	12,686	-4%	62,722	-17%	239,118	+19	7,342	+7
	1988	295,520	-6%	13,208	+16%	75,163	-19%	200,302	-2%	6,847	+2%
	1987	314,694	-15%	11,394	+5%	92,576	-33%	204,023	-5%	6,701	+3%
	1986	371,351	-19%	10,841	+11%	138,166	-10%	215,833	-24%	6,511	-14%
	1985	457,172	-9%	9,763	-336%	154,021	+4%	285,780	-5%	7,608	+3%
IFR-DVFR	1989	45,252	+10%	12,622	-4%	7,566	+35%	22,103	+13%	2,961	+13%
	1988	40,996	+11%	13,188	+19%	5,604	+26%	19,582	+5%	2,622	+2%
	1987	36,779	-1%	11,077	+6%	4,447	+45%	18,672	-13%	2,583	+7%
	1986	37,301	-5%	10,405	+8%	3,066	-37%	21,425	-5%	2,405	-1%
	1985	39,377	-72%	9,595	-339%	4,850	+5%	22,511	+19%	2,421	-12%
VFR	1989	276,616	+9%	64	+220%	55,156	-21%	217,015	+20%	4,381	+4
	1988	254,524	-8%	20	-94%	69,559	-21%	180,720	-2%	4,225	+3%
	1987	277,915	-17%	317	-27%	88,129	-35%	185,351	-5%	4,118	+ <sup>1</sup>
	1986	334,050	-20%	436	+160%	135,100	-9%	194,408	-26%	4,106	-21%
	1985	417,795	-3%	168	-135%	149,171	+4%	263,269	-7%	5,187	+10%

<sup>1</sup> Less than 0.5 percent.

**TABLE 2.16**  
**TOP 25 FAA-OPERATED AIRPORT TRAFFIC CONTROL TOWERS,**  
**BY RANK ORDER OF TOTAL OPERATIONS**  
**AND BY AVIATION CATEGORY INCLUDING AIR CARRIER RANK**  
**CALENDAR YEAR 1989**

Tower	Rank	Total Operations	Rank	Air Carrier	Air Taxi	General Aviation	Military
Chicago O'Hare Int'l.....	1	789,913	1	620,207	138,551	27,626	3,529
Dallas Ft. Worth Regional.....	2	699,434	2	505,184	175,345	17,994	911
Atlanta International.....	3	665,927	3	478,856	160,838	24,811	1,422
Los Angeles International.....	4	637,117	4	430,218	154,028	47,964	4,907
Santa Ana.....	5	528,045	54	61,593	29,189	432,139	5,124
Fort Worth Meacham.....	6	507,059	229	208	1,734	504,592	525
Van Nuys.....	7	507,003	270	14	770	504,899	1,320
Phoenix Sky Harbor Int'l.....	8	484,920	7	288,944	68,954	119,197	7,825
Long Beach.....	9	465,677	89	22,948	6,946	433,034	2,749
Denver Stapleton Int'l.....	10	463,797	5	313,562	109,556	38,786	1,893
San Francisco.....	11	434,000	6	309,056	83,405	38,922	2,617
Charlotte Douglas.....	12	430,688	15	234,456	114,425	77,952	3,855
St. Louis International.....	13	427,593	8	282,105	96,776	39,843	8,869
Boston Logan.....	14	422,849	14	239,220	135,339	47,981	309
Seattle Boeing.....	15	415,036	147	7,122	20,183	384,592	3,139
Honolulu.....	16	403,738	19	194,354	64,349	100,411	44,624
Oakland International.....	17	400,056	49	76,519	57,547	264,323	1,667
Miami International.....	18	388,332	12	250,305	62,134	70,363	5,530
Pontiac.....	19	381,978	240	113	7,698	373,334	833
Las Vegas McCarran Int'l.....	20	380,234	21	187,984	46,277	109,599	6,374
Pittsburgh Greater Int'l.....	21	376,786	13	248,020	96,300	25,907	6,559
Detroit Metro Wayne.....	22	374,573	9	273,964	48,134	52,275	200
Minneapolis St Paul Int'l.....	23	374,548	16	227,510	74,425	68,266	4,347
Philadelphia Int'l.....	24	373,945	25	180,337	136,359	56,361	888
Newark.....	25	373,813	10	264,022	85,350	23,881	560

Note: Total Operations rank was based on total air traffic activity at 398 FAA-Operated Towers. Air Carrier operations rank was based on air carrier activity at 319 FAA-Operated Towers. Not all FAA-Operated Towers handle air carrier operations.

**TABLE 2.17**  
**TOP 25 FAA-OPERATED AIRPORT TRAFFIC CONTROL TOWERS,**  
**BY RANK ORDER OF AIR CARRIER OPERATIONS**  
**AND BY AVIATION CATEGORY INCLUDING TOTAL OPERATIONS RANK**  
**CALENDAR YEAR 1989**

Tower	Rank	Air Carrier	Air Taxi	General Aviation	Military	Rank	Total Operations
Chicago O'Hare Int'l.....	1	620,207	138,551	27,626	3,529	1	789,913
Dallas Ft. Worth Regional.....	2	505,184	175,345	17,994	911	2	699,434
Atlanta International.....	3	478,856	160,838	24,811	1,422	3	665,927
Los Angeles International.....	4	430,218	154,028	47,964	4,907	4	637,117
Denver Stapleton Int'l.....	5	313,562	109,556	38,786	1,893	10	463,797
San Francisco.....	6	309,056	83,405	38,922	2,617	11	434,000
Phoenix Sky Harbor Int'l.....	7	288,944	68,954	119,197	7,825	8	484,920
St. Louis International.....	8	282,105	96,776	39,843	8,869	13	427,593
Detroit Metro Wayne.....	9	273,964	48,134	52,275	200	22	374,573
Newark.....	10	264,022	85,350	23,881	560	25	373,813
La Guardia.....	11	262,878	65,408	26,042	430	27	354,758
Miami International.....	12	250,305	62,134	70,363	5,530	18	388,332
Pittsburgh Greater Int'l.....	13	248,020	96,300	25,907	6,559	21	376,786
Boston Logan.....	14	239,220	135,339	47,981	309	14	422,849
Charlotte Douglas.....	15	234,456	114,425	77,952	3,855	12	430,688
Minneapolis St Paul Int'l.....	16	227,510	74,425	68,266	4,347	23	374,548
John F. Kennedy Int'l.....	17	220,481	96,169	23,313	660	29	340,623
Houston International.....	18	208,371	46,108	40,670	1,159	36	296,308
Honolulu.....	19	194,354	64,349	100,411	44,624	16	403,738
Memphis International.....	20	193,213	59,141	70,935	6,405	31	329,694
Las Vegas McCarran Int'l.....	21	187,984	76,277	109,599	6,374	20	380,234
Orlando.....	22	186,052	51,064	41,022	4,519	39	282,657
Washington National.....	23	185,379	56,116	72,789	284	34	314,568
Seattle Tacoma Int'l.....	24	182,460	139,265	12,868	378	30	334,971
Philadelphia Int'l.....	25	180,337	136,359	56,361	888	24	373,945

Note: Total Operations rank was based on total air traffic activity at 398 FAA-Operated Towers. Air Carrier operations rank was based on air carrier activity at 319 FAA-Operated Towers. Not all FAA-Operated Towers handle air carrier operations.

**TABLE 2.18**  
**TOTAL FAA AIR TRAFFIC ACTIVITY BY REGION AND STATE,**  
**AND BY FAA-OPERATED TOWERS, AIR ROUTE TRAFFIC CONTROL CENTERS,**  
**FLIGHT SERVICE STATIONS AND INTERNATIONAL FLIGHT SERVICE STATIONS**  
**CALENDAR YEAR 1989**

FAA Region and State	Airport Operations (Towers)	Aircraft Handled (Centers)	Aircraft Contacted		Total Flight Services	
			Flight Service Stations	Int'l Flight Service Station	Flight Service Station	Int'l Flight Service Station
<b>TOTAL</b>	<b>61,321,964</b>	<b>36,704,773</b>	<b>6,114,492</b>	<b>321,868</b>	<b>44,568,228</b>	<b>1,643,176</b>
<b>Alaskan—Total</b>	<b>1,037,207</b>	<b>453,456</b>	<b>954,213</b>	—	<b>2,364,409</b>	—
<b>Central—Total</b>	<b>2,413,494</b>	<b>1,774,718</b>	<b>367,700</b>	—	<b>3,148,580</b>	—
Iowa	443,351	—	53,938	—	588,058	—
Kansas	502,038	—	83,615	—	635,373	—
Missouri	1,184,955	1,774,718	153,525	—	1,488,663	—
Nebraska	283,150	—	76,622	—	436,486	—
<b>Eastern—Total</b>	<b>8,038,820</b>	<b>4,075,143</b>	<b>502,668</b>	—	<b>5,946,950</b>	—
Delaware	199,825	—	—	—	—	—
District of Columbia	314,568	2,175,873	82,035	—	1,074,705	—
Maryland	525,805	—	47,016	—	100,942	—
New Jersey	1,309,344	—	52,564	—	962,994	—
New York	2,495,148	1,899,270	83,967	—	1,272,967	—
Pennsylvania	1,910,860	—	140,598	—	1,669,846	—
Virginia	923,563	—	15,207	—	257,669	—
West Virginia	359,707	—	81,281	—	607,827	—
<b>Great Lakes—Total</b>	<b>9,879,838</b>	<b>8,603,583</b>	<b>759,737</b>	—	<b>7,291,451</b>	—
Illinois	2,879,152	2,541,024	97,631	—	1,081,345	—
Indiana	819,391	2,006,260	77,169	—	979,969	—
Michigan	2,033,955	—	89,951	—	1,199,787	—
Minnesota	1,045,462	1,688,221	136,509	—	783,285	—
North Dakota	495,613	—	45,875	—	433,537	—
Ohio	1,510,382	2,368,078	96,401	—	1,637,531	—
South Dakota	152,880	—	98,959	—	378,761	—
Wisconsin	943,003	—	117,242	—	797,236	—
<b>New England—Total</b>	<b>3,383,933</b>	<b>1,683,095</b>	<b>156,443</b>	—	<b>2,122,417</b>	—
Connecticut	835,820	—	71,674	—	1,036,152	—
Maine	241,340	—	36,852	—	487,358	—
Massachusetts	1,767,654	1,683,095	—	—	—	—
New Hampshire	196,001	—	2,288	—	15,432	—
Rhode Island	197,519	—	—	—	—	—
Vermont	145,599	—	45,629	—	583,475	—
<b>Northwest Mountain—Total</b>	<b>5,303,343</b>	<b>4,160,732</b>	<b>835,423</b>	—	<b>3,963,115</b>	—
Colorado	1,343,404	1,458,216	137,301	—	840,211	—
Idaho	364,602	—	53,862	—	266,712	—
Montana	313,879	—	151,881	—	466,651	—
Oregon	943,801	—	119,379	—	622,423	—
Utah	392,472	1,336,618	69,332	—	346,454	—
Washington	1,820,718	1,365,898	205,752	—	1,106,990	—
Wyoming	124,467	—	97,916	—	313,674	—
<b>Southern—Total</b>	<b>11,058,284</b>	<b>7,377,138</b>	<b>996,469</b>	<b>321,868</b>	<b>9,191,597</b>	<b>1,643,176</b>
Alabama	614,038	—	116,435	—	956,213	—
Florida	5,042,790	3,340,795	274,456	227,526	2,489,296	1,377,838
Georgia	1,377,929	2,210,512	108,947	—	1,377,575	—
Kentucky	700,465	—	68,059	—	552,399	—
Mississippi	297,572	—	46,887	—	410,915	—
North Carolina	1,190,632	—	167,716	—	1,363,464	—
Puerto Rico	277,960	—	—	94,342	—	265,338
South Carolina	431,540	—	71,787	—	815,553	—
Tennessee	941,161	1,825,831	142,182	—	1,226,182	—
Virgin Islands	184,197	—	—	—	—	—
<b>Southwest—Total</b>	<b>6,667,468</b>	<b>5,031,935</b>	<b>679,916</b>	—	<b>5,430,288</b>	—
Arkansas	316,160	—	82,295	—	555,509	—
Louisiana	944,010	—	40,565	—	612,269	—
New Mexico	404,271	1,444,631	141,311	—	557,857	—
Oklahoma	811,753	—	93,520	—	723,564	—
Texas	4,191,274	3,587,304	322,225	—	2,981,089	—
<b>Western-Pacific—Total</b>	<b>13,539,577</b>	<b>3,544,973</b>	<b>861,923</b>	—	<b>5,109,421</b>	—
American Samoa	9,597	—	—	—	—	—
Arizona	1,943,873	—	136,282	—	665,442	—
California	10,005,551	3,486,123	586,357	—	3,739,907	—
Guam	—	58,850	—	—	—	—
Hawaii	894,230	—	62,217	—	301,455	—
Nevada	667,266	—	77,067	—	402,617	—
Wake Island	19,060	—	—	—	—	—



### **III. AIRPORTS**

Information about U.S. civil and joint-use landing facilities (including airports, heliports, stolports, and seaplane bases) was furnished by the FAA Office of Airport Standards. This information was obtained through physical inspection and mail solicitations, and was reported on the Airport Master Record (Form FAA 5010-1) and FAA Landing Facilities Information Request on Airports, Heliports, Stolports, and Seaplane Bases (Forms 5010-2 and 5010-5).

**TABLE 3.1**  
**U.S. CIVIL AND JOINT-USE AIRPORTS, HELIPORTS, STOLPORTS,**  
**AND SEAPLANE BASES, ON RECORD:**  
**1980-1989**

Year	All Facilities <sup>1</sup>			Airport Only			
	Total	With Runway	With Paved Runways	Total	With Runway	With Paved Runway	Airports of Entry <sup>2</sup>
1980.....	15,161	4,738	5,833	12,240	4,443	4,306	69
1981.....	15,476	4,796	6,012	12,427	4,474	4,351	69
1982.....	15,831	4,842	6,224	12,596	4,494	4,391	63
1983.....	16,029	4,878	6,441	12,653	4,513	4,431	59
1984.....	16,079	4,889	6,531	12,648	4,536	4,450	59
1985.....	16,318	4,941	6,721	12,744	4,582	4,486	57
1986.....	16,582	4,954	6,948	12,785	4,601	4,499	76
1987.....	17,015	4,922	7,232	12,907	4,610	4,526	80
1988.....	17,327	4,890	7,429	12,950	4,630	4,554	80
1989.....	17,446	4,881	7,612	12,946	4,657	4,600	84

<sup>1</sup>Excludes landing rights airports.

<sup>2</sup>All facilities include airports, heliports, stolports, and seaplane bases.

**TABLE 3.2**  
**U.S. CIVIL AND JOINT-USE AIRPORTS, HELIPORTS, STOLPORTS, AND SEAPLANE BASES,**  
**AND REPORTED ABANDONMENTS ON RECORD, BY FAA REGION AND STATE**  
**DECEMBER 31, 1989**

FAA Region and State	Total Aircraft Facilities	Airports	Heliports	Stolports	Seaplane Bases	Reported Abandon- ments During Year
<b>Total.....</b>	<b>17,446</b>	<b>12,946</b>	<b>4,016</b>	<b>70</b>	<b>414</b>	<b>367</b>
<b>United States—Total<sup>1</sup>.....</b>	<b>17,377</b>	<b>12,897</b>	<b>4,000</b>	<b>70</b>	<b>410</b>	<b>366</b>
<b>Alaskan—Total.....</b>	<b>593</b>	<b>469</b>	<b>19</b>	<b>—</b>	<b>105</b>	<b>10</b>
<b>Central—Total.....</b>	<b>1,406</b>	<b>1,233</b>	<b>164</b>	<b>3</b>	<b>6</b>	<b>31</b>
Iowa.....	273	231	41	1	—	2
Kansas.....	385	360	24	1	—	8
Missouri.....	431	345	80	1	5	13
Nebraska.....	317	297	19	—	1	8
<b>Eastern—Total.....</b>	<b>2,208</b>	<b>1,384</b>	<b>756</b>	<b>7</b>	<b>61</b>	<b>67</b>
Delaware.....	34	21	13	—	—	1
District of Columbia.....	17	2	15	—	—	—
Maryland.....	162	114	46	1	1	5
New Jersey.....	322	113	196	—	13	12
New York.....	493	357	113	—	23	22
Pennsylvania.....	765	486	265	3	11	17
Virginia.....	322	231	85	3	3	8
West Virginia.....	93	60	23	—	10	2
<b>Great Lakes—Total.....</b>	<b>4,235</b>	<b>3,468</b>	<b>665</b>	<b>11</b>	<b>91</b>	<b>46</b>
Illinois.....	938	709	223	—	6	5
Indiana.....	554	458	90	2	4	9
Michigan.....	434	366	62	2	4	7
Minnesota.....	475	385	24	1	65	6
North Dakota.....	480	472	7	—	1	9
Ohio.....	720	528	188	4	—	5
South Dakota.....	158	150	7	1	—	1
Wisconsin.....	476	400	64	1	11	4
<b>New England—Total.....</b>	<b>612</b>	<b>329</b>	<b>221</b>	<b>6</b>	<b>56</b>	<b>10</b>
Connecticut.....	130	56	67	2	5	—
Maine.....	148	101	12	—	35	2
Massachusetts.....	181	74	94	1	12	4
New Hampshire.....	69	40	25	1	3	1
Rhode Island.....	23	12	10	—	1	—
Vermont.....	61	46	13	2	—	3
<b>Northwest Mountain—Total.....</b>	<b>1,805</b>	<b>1,356</b>	<b>419</b>	<b>10</b>	<b>20</b>	<b>53</b>
Colorado.....	385	216	164	5	—	17
Idaho.....	211	182	25	—	4	4
Montana.....	214	194	18	1	1	5
Oregon.....	372	286	81	3	2	12
Utah.....	111	85	26	—	—	3
Washington.....	412	306	92	1	13	9
Wyoming.....	100	87	13	—	—	3
<b>Southern—Total.....</b>	<b>2,285</b>	<b>1,706</b>	<b>530</b>	<b>20</b>	<b>29</b>	<b>85</b>
Alabama.....	195	158	36	—	1	11
Florida.....	645	423	198	4	20	38
Georgia.....	363	269	90	4	—	7
Kentucky.....	148	116	31	1	—	4
Mississippi.....	207	177	30	—	—	5
North Carolina.....	332	273	55	3	1	9
Puerto Rico.....	29	17	11	—	1	1
South Carolina.....	150	129	21	—	—	5
Tennessee.....	208	142	55	8	3	5
Virgin Islands.....	8	2	3	—	3	—
<b>Southwest—Total.....</b>	<b>2,910</b>	<b>2,110</b>	<b>758</b>	<b>8</b>	<b>34</b>	<b>49</b>
Arkansas.....	218	156	62	—	—	4
Louisiana.....	419	198	189	—	32	5
New Mexico.....	170	149	20	—	1	1
Oklahoma.....	406	320	85	—	1	4
Texas.....	1,697	1,287	402	8	—	35
<b>Western-Pacific—Total.....</b>	<b>1,392</b>	<b>891</b>	<b>484</b>	<b>5</b>	<b>12</b>	<b>16</b>
Arizona.....	270	178	91	1	—	4
California.....	910	549	346	3	12	8
Hawaii.....	53	34	19	—	—	2
Nevada.....	127	100	26	1	—	2
South Pacific <sup>2</sup> .....	32	30	2	—	—	—

<sup>1</sup> Excludes Puerto Rico, Virgin Islands, and South Pacific.

<sup>2</sup> American Samoa, Guam and Trust Territories.

**TABLE 3.3**  
**U.S. CIVIL AND JOINT-USE AIRPORTS, HELIPORTS, STOLPORTS, AND SEAPLANE BASES,**  
**ON RECORD, BY TYPE OF OWNERSHIP**  
**DECEMBER 31, 1989**

FAA Region and State	Total Facilities	By Ownership		Paved Facilities		Unpaved Facilities	
		Private	Public	Lighted	Not Lighted	Lighted	Not Lighted
<b>TOTAL</b>	<b>17,446</b>	<b>12,362</b>	<b>5,084</b>	<b>3,973</b>	<b>3,639</b>	<b>908</b>	<b>8,926</b>
<b>United States—Total</b> <sup>1</sup>	<b>17,377</b>	<b>12,343</b>	<b>5,034</b>	<b>3,949</b>	<b>3,619</b>	<b>908</b>	<b>8,901</b>
<b>Alaskan—Total</b>	<b>593</b>	<b>193</b>	<b>400</b>	<b>47</b>	<b>14</b>	<b>106</b>	<b>426</b>
<b>Central—Total</b>	<b>1,406</b>	<b>932</b>	<b>474</b>	<b>398</b>	<b>168</b>	<b>117</b>	<b>723</b>
Iowa	273	152	121	99	35	47	92
Kansas	385	254	131	104	27	30	224
Missouri	431	304	127	117	82	21	211
Nebraska	317	222	95	78	24	19	196
<b>Eastern—Total</b>	<b>2,208</b>	<b>1,873</b>	<b>335</b>	<b>409</b>	<b>526</b>	<b>111</b>	<b>1,162</b>
Delaware	34	30	4	7	6	6	15
District of Columbia	17	10	7	4	10	—	3
Maryland	162	141	21	36	37	9	80
New Jersey	322	281	41	42	93	15	172
New York	493	411	82	99	101	34	259
Pennsylvania	765	688	77	116	184	35	430
Virginia	322	248	74	75	69	10	168
West Virginia	93	64	29	30	26	2	35
<b>Great Lakes—Total</b>	<b>4,235</b>	<b>3,330</b>	<b>905</b>	<b>804</b>	<b>509</b>	<b>304</b>	<b>2,618</b>
Illinois	938	826	112	112	150	56	620
Indiana	554	466	88	89	66	33	366
Michigan	434	299	135	130	51	45	208
Minnesota	475	326	149	100	25	39	311
North Dakota	480	383	97	68	8	30	374
Ohio	720	585	135	145	133	49	393
South Dakota	158	80	78	52	8	23	75
Wisconsin	476	365	111	108	68	29	271
<b>New England—Total</b>	<b>612</b>	<b>473</b>	<b>139</b>	<b>130</b>	<b>175</b>	<b>11</b>	<b>296</b>
Connecticut	130	114	16	26	55	2	47
Maine	148	102	46	30	18	3	97
Massachusetts	181	148	33	40	66	3	72
New Hampshire	69	54	15	17	23	2	27
Rhode Island	23	14	9	7	8	—	8
Vermont	61	41	20	10	5	1	45
<b>Northwest Mountain—Total</b>	<b>1,805</b>	<b>1,117</b>	<b>688</b>	<b>447</b>	<b>355</b>	<b>81</b>	<b>922</b>
Colorado	385	290	95	82	84	16	203
Idaho	211	79	132	45	32	1	133
Montana	214	93	121	67	26	18	103
Oregon	372	270	102	70	82	13	207
Utah	111	52	59	42	29	2	38
Washington	412	282	130	108	86	28	190
Wyoming	100	51	49	33	16	3	48
<b>Southern—Total</b>	<b>2,285</b>	<b>1,468</b>	<b>817</b>	<b>680</b>	<b>509</b>	<b>91</b>	<b>1,005</b>
Alabama	195	98	97	91	39	8	57
Florida	645	491	154	115	176	26	328
Georgia	363	230	133	103	83	9	168
Kentucky	148	77	71	57	36	4	51
Mississippi	207	118	89	73	42	7	85
North Carolina	332	235	97	94	53	21	164
Puerto Rico	29	12	17	11	13	—	5
South Carolina	150	84	66	57	17	8	68
Tennessee	208	121	87	77	49	8	74
Virgin Islands	8	2	6	2	1	—	5
<b>Southwest—Total</b>	<b>2,910</b>	<b>2,101</b>	<b>809</b>	<b>705</b>	<b>814</b>	<b>67</b>	<b>1,324</b>
Arkansas	218	107	111	82	66	4	66
Louisiana	419	319	100	74	159	2	184
New Mexico	170	91	79	50	31	3	86
Oklahoma	406	244	162	119	91	16	180
Texas	1,697	1,340	357	380	467	42	808
<b>Western-Pacific—Total</b>	<b>1,392</b>	<b>875</b>	<b>517</b>	<b>353</b>	<b>569</b>	<b>20</b>	<b>450</b>
Arizona	270	179	91	65	88	3	114
California	910	594	316	237	416	13	244
Hawaii	53	36	17	12	31	1	9
Nevada	127	61	66	28	28	3	68
South Pacific2	32	5	27	11	6	—	15

<sup>1</sup> Excludes Puerto Rico, Virgin Islands, and South Pacific.

<sup>2</sup> American Samoa, Guam and Trust Territories.

**TABLE 3.4**  
**U.S. CIVIL AND JOINT-USE AIRPORTS, HELIPORTS, STOLPORTS, AND SEAPLANE BASES**  
**ON RECORD, BY LENGTH OF LONGEST RUNWAY, BY FAA REGION AND STATE**  
**DECEMBER 31, 1989**

FAA State and Region	Total	Under 3000	3000- 3999	4000- 4999	5000- 5999	6000- 6999	7000- 7999	8000- 8999	9000- 9999	10,000- Over
<b>TOTAL</b> .....	<b>17,446</b>	<b>11,700</b>	<b>2,671</b>	<b>1,249</b>	<b>883</b>	<b>338</b>	<b>176</b>	<b>125</b>	<b>67</b>	<b>237</b>
<b>U.S.—Total</b> <sup>1</sup> .....	<b>17,377</b>	<b>11,667</b>	<b>2,662</b>	<b>1,245</b>	<b>878</b>	<b>331</b>	<b>171</b>	<b>124</b>	<b>65</b>	<b>234</b>
<b>Alaskan—Total</b> .....	<b>593</b>	<b>316</b>	<b>79</b>	<b>55</b>	<b>54</b>	<b>20</b>	<b>9</b>	<b>6</b>	<b>5</b>	<b>49</b>
<b>Central—Total</b> .....	<b>1,406</b>	<b>977</b>	<b>244</b>	<b>96</b>	<b>39</b>	<b>17</b>	<b>11</b>	<b>7</b>	<b>3</b>	<b>12</b>
Iowa .....	273	182	42	34	6	5	—	3	1	—
Kansas .....	385	267	69	20	18	2	6	—	—	3
Missouri .....	431	315	74	15	9	6	3	1	1	7
Nebraska .....	317	213	59	27	6	4	2	3	1	2
<b>Eastern—Total</b> .....	<b>2,208</b>	<b>1,785</b>	<b>185</b>	<b>76</b>	<b>75</b>	<b>31</b>	<b>14</b>	<b>8</b>	<b>10</b>	<b>24</b>
Delaware .....	34	26	4	2	1	—	1	—	—	—
District of Columbia .....	17	15	—	—	—	1	—	—	—	1
Maryland .....	162	133	15	6	5	1	—	1	1	—
New Jersey .....	322	275	24	5	9	3	1	1	1	3
New York .....	493	369	50	18	18	10	4	2	4	18
Pennsylvania .....	765	668	43	19	16	7	6	1	3	2
Virginia .....	322	245	36	19	13	5	—	3	1	—
West Virginia .....	93	54	13	7	13	4	2	—	—	—
<b>Great Lakes—Total</b> .....	<b>4,235</b>	<b>3,182</b>	<b>571</b>	<b>200</b>	<b>118</b>	<b>59</b>	<b>29</b>	<b>25</b>	<b>8</b>	<b>43</b>
Illinois .....	938	817	62	24	15	8	4	5	—	3
Indiana .....	554	445	57	23	15	4	2	1	1	6
Michigan .....	434	288	74	27	22	11	5	1	1	5
Minnesota .....	475	280	84	32	28	16	9	5	—	21
N. Dakota .....	480	369	79	20	5	3	2	1	1	—
Ohio .....	720	559	91	39	15	6	2	3	2	3
S. Dakota .....	158	76	53	16	5	5	1	2	—	—
Wisconsin .....	476	348	71	19	13	6	4	7	3	5
<b>New England—Total</b> .....	<b>612</b>	<b>451</b>	<b>53</b>	<b>28</b>	<b>38</b>	<b>11</b>	<b>9</b>	<b>3</b>	<b>2</b>	<b>17</b>
Connecticut .....	130	112	5	6	4	—	1	—	1	1
Maine .....	148	79	21	11	13	5	3	2	—	14
Massachusetts .....	181	141	15	6	11	3	1	1	1	2
New Hampshire .....	69	51	6	2	6	3	1	—	—	—
Rhode Island .....	23	18	—	2	1	—	2	—	—	—
Vermont .....	61	50	6	1	3	—	1	—	—	—
<b>Northwest Mountain—Total</b> .....	<b>1,805</b>	<b>1,075</b>	<b>305</b>	<b>178</b>	<b>119</b>	<b>47</b>	<b>23</b>	<b>16</b>	<b>16</b>	<b>26</b>
Colorado .....	385	235	55	39	25	10	4	7	4	6
Idaho .....	211	109	45	36	10	3	1	1	3	3
Montana .....	214	81	74	32	14	2	1	4	4	4
Oregon .....	372	280	43	18	20	7	1	1	—	2
Utah .....	111	30	21	23	19	9	5	2	1	1
Washington .....	412	309	49	14	19	6	4	—	3	8
Wyoming .....	100	31	18	16	12	10	7	3	1	2
<b>Southern—Total</b> .....	<b>2,285</b>	<b>1,340</b>	<b>453</b>	<b>219</b>	<b>145</b>	<b>46</b>	<b>25</b>	<b>25</b>	<b>9</b>	<b>23</b>
Alabama .....	195	99	40	27	12	7	2	4	2	2
Florida .....	645	392	115	57	34	14	11	9	2	11
Georgia .....	363	225	72	27	28	7	—	2	1	1
Kentucky .....	148	94	20	18	9	4	1	—	1	1
Mississippi .....	207	98	72	17	10	4	1	4	1	—
N. Carolina .....	332	212	61	31	14	4	5	1	—	4
Puerto Rico .....	29	18	4	2	2	1	—	—	—	2
S. Carolina .....	150	78	38	13	16	2	1	2	—	—
Tennessee .....	208	120	31	27	19	3	2	3	2	1
Virgin Islands .....	8	4	—	—	1	—	2	—	—	1
<b>Southwest—Total</b> .....	<b>2,910</b>	<b>1,724</b>	<b>570</b>	<b>269</b>	<b>209</b>	<b>57</b>	<b>32</b>	<b>21</b>	<b>6</b>	<b>22</b>
Arkansas .....	218	122	45	25	16	8	1	1	—	—
Louisiana .....	419	286	59	17	37	7	2	2	1	8
New Mexico .....	170	43	26	32	38	11	10	7	—	3
Oklahoma .....	406	265	81	29	17	6	3	1	1	3
Texas .....	1,697	1,008	359	166	101	25	16	10	4	8
<b>Western-Pacific—Total</b> .....	<b>1,392</b>	<b>850</b>	<b>211</b>	<b>128</b>	<b>86</b>	<b>50</b>	<b>24</b>	<b>14</b>	<b>8</b>	<b>21</b>
Arizona .....	270	143	37	43	23	11	6	5	—	2
California .....	910	609	150	60	36	22	8	6	4	15
Hawaii .....	53	40	4	2	2	3	—	—	1	1
Nevada .....	127	47	15	21	23	8	7	2	1	3
South Pacific <sup>2</sup> .....	32	11	5	2	2	6	3	1	2	—

<sup>1</sup> Excludes Puerto Rico, Virgin Islands, and South Pacific.

<sup>2</sup> American Samoa, Guam, and Trust Territories.

**TABLE 3.5**  
**U.S. CIVIL AND JOINT-USE AIRPORTS, HELIPORTS, STOLPORTS, AND SEAPLANE BASES**  
**ON RECORD, BY FAA REGION AND STATE AND OTHER AREAS**  
**DECEMBER 31, 1980 - 1989**

FAA Region and State	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
<b>TOTAL</b>	<b>15,161</b>	<b>15,476</b>	<b>15,831</b>	<b>16,029</b>	<b>16,079</b>	<b>16,318</b>	<b>16,582</b>	<b>17,015</b>	<b>17,327</b>	<b>17,446</b>
<b>United States—Total</b> <sup>1</sup>	<b>15,107</b>	<b>15,422</b>	<b>15,778</b>	<b>15,966</b>	<b>16,013</b>	<b>16,252</b>	<b>16,516</b>	<b>16,949</b>	<b>17,259</b>	<b>17,377</b>
<b>Alaskan—Total</b>	<b>731</b>	<b>689</b>	<b>666</b>	<b>615</b>	<b>609</b>	<b>610</b>	<b>614</b>	<b>593</b>	<b>603</b>	<b>593</b>
<b>Central—Total</b>	<b>1,340</b>	<b>1,373</b>	<b>1,379</b>	<b>1,425</b>	<b>1,430</b>	<b>1,437</b>	<b>1,421</b>	<b>1,437</b>	<b>1,417</b>	<b>1,406</b>
Iowa	267	270	273	280	282	278	279	277	274	273
Kansas	377	376	377	380	384	385	382	389	390	385
Missouri	377	393	398	419	423	437	429	440	431	431
Nebraska	319	334	331	346	341	337	331	331	322	317
<b>Eastern—Total</b>	<b>1,971</b>	<b>2,003</b>	<b>2,011</b>	<b>2,051</b>	<b>2,048</b>	<b>2,076</b>	<b>2,134</b>	<b>2,175</b>	<b>2,192</b>	<b>2,208</b>
Delaware	36	37	35	37	36	36	37	35	34	34
District of Columbia	18	16	16	16	15	15	15	15	16	17
Maryland	150	145	147	147	149	151	155	154	157	162
New Jersey	265	271	280	291	294	295	286	317	317	322
New York	471	486	486	476	480	485	495	507	506	493
Pennsylvania	694	698	696	720	708	719	755	744	756	765
Virginia	260	260	262	270	274	282	299	308	313	322
West Virginia	77	90	89	94	92	93	92	95	93	93
<b>Great Lakes—Total</b>	<b>3,641</b>	<b>3,813</b>	<b>4,023</b>	<b>4,031</b>	<b>4,027</b>	<b>4,060</b>	<b>4,071</b>	<b>4,135</b>	<b>4,190</b>	<b>4,235</b>
Illinois	942	929	908	909	901	888	894	913	924	938
Indiana	347	365	490	498	495	523	518	530	545	554
Michigan	419	417	421	422	427	422	419	431	434	434
Minnesota	491	493	498	492	480	479	472	477	475	475
North Dakota	229	365	442	451	457	484	499	487	486	480
Ohio	652	674	681	678	689	690	697	716	714	720
South Dakota	159	162	163	165	165	164	161	158	155	158
Wisconsin	402	408	420	416	413	410	411	423	457	476
<b>New England—Total</b>	<b>542</b>	<b>534</b>	<b>521</b>	<b>513</b>	<b>509</b>	<b>515</b>	<b>536</b>	<b>568</b>	<b>595</b>	<b>612</b>
Connecticut	108	105	105	105	104	108	112	120	128	130
Maine	162	158	147	146	143	144	144	144	146	148
Massachusetts	138	136	134	130	130	131	141	158	170	181
New Hampshire	52	52	54	54	54	53	58	62	67	69
Rhode Island	18	18	18	18	18	18	20	22	23	23
Vermont	64	65	63	60	60	61	61	62	61	61
<b>Northwest Mountain—Total</b>	<b>1,593</b>	<b>1,586</b>	<b>1,619</b>	<b>1,636</b>	<b>1,626</b>	<b>1,662</b>	<b>1,685</b>	<b>1,737</b>	<b>1,812</b>	<b>1,805</b>
Colorado	307	312	326	321	315	321	323	333	396	385
Idaho	197	196	197	196	198	202	205	207	209	211
Montana	185	190	191	197	194	200	203	210	212	214
Oregon	323	318	332	341	336	342	351	366	367	372
Utah	104	102	96	95	97	101	105	109	113	111
Washington	371	363	372	382	385	395	396	408	413	412
Wyoming	106	105	105	104	101	101	102	104	102	100
<b>Southern—Total</b>	<b>1,851</b>	<b>1,895</b>	<b>1,919</b>	<b>1,947</b>	<b>1,961</b>	<b>2,002</b>	<b>2,099</b>	<b>2,165</b>	<b>2,293</b>	<b>2,285</b>
Alabama	163	165	167	169	173	174	183	193	201	195
Florida	485	506	529	541	542	557	594	607	669	645
Georgia	288	293	295	302	301	304	325	334	352	363
Kentucky	128	125	127	127	129	134	139	139	148	148
Mississippi	171	180	180	181	180	188	190	194	205	207
North Carolina	285	286	280	284	288	292	307	316	322	332
Puerto Rico	32	33	32	31	31	31	30	27	28	29
South Carolina	132	137	135	137	139	139	137	146	152	150
Tennessee	160	164	168	169	171	176	186	201	208	208
Virgin Islands	7	6	6	6	7	7	8	8	8	8
<b>Southwest—Total</b>	<b>2,263</b>	<b>2,333</b>	<b>2,425</b>	<b>2,506</b>	<b>2,541</b>	<b>2,624</b>	<b>2,661</b>	<b>2,818</b>	<b>2,833</b>	<b>2,910</b>
Arkansas	156	157	157	160	156	163	167	173	195	218
Louisiana	289	292	303	311	317	353	357	381	385	419
New Mexico	149	156	159	160	167	169	168	174	167	170
Oklahoma	294	297	322	332	335	336	341	403	399	406
Texas	1,375	1,431	1,484	1,543	1,566	1,603	1,628	1,687	1,687	1,697
<b>Western-Pacific—Total</b>	<b>1,229</b>	<b>1,250</b>	<b>1,268</b>	<b>1,305</b>	<b>1,326</b>	<b>1,332</b>	<b>1,361</b>	<b>1,387</b>	<b>1,392</b>	<b>1,392</b>
Arizona	216	224	233	240	244	246	262	265	272	270
California	825	832	843	862	881	887	895	909	907	910
Hawaii	50	51	49	51	51	50	51	54	54	53
Nevada	123	128	128	126	124	121	125	128	127	127
South Pacific2	15	15	15	26	28	28	28	31	32	32

<sup>1</sup> Excludes Puerto Rico, Virgin Islands, and South Pacific.

<sup>2</sup> American Samoa, Guam, and Trust Territories.

**TABLE 3.6**  
**AIRPORT IMPROVEMENT PROGRAM: FISCAL YEAR 1989**  
(Excludes Amendment to Grants) (Thousands of Dollars)

FAA Region and State	Primary		Commercial		Reliever		General Aviation		System Planning	
	Total Federal Funds	Total Projects	Total Federal Funds	Total Projects	Total Federal Funds	Total Projects	Total Federal Funds	Total Projects	Total Federal Funds	Total Projects
<b>TOTAL</b>	<b>881,005.9</b>	<b>513</b>	<b>43,269.2</b>	<b>74</b>	<b>169,533.5</b>	<b>163</b>	<b>177,397.3</b>	<b>450</b>	<b>8,087.3</b>	<b>58</b>
<b>U. S.—Total</b>	<b>872,002.3</b>	<b>500</b>	<b>41,589.1</b>	<b>73</b>	<b>169,533.5</b>	<b>163</b>	<b>177,397.3</b>	<b>450</b>	<b>7,884.8</b>	<b>57</b>
<b>Alaskan—Total</b>	<b>20,105.3</b>	<b>10</b>	<b>2,600.3</b>	<b>4</b>	—	—	<b>13,012.4</b>	<b>14</b>	—	—
<b>Central—Total</b>	<b>42,252.1</b>	<b>22</b>	<b>5,366.4</b>	<b>13</b>	<b>4,857.9</b>	<b>8</b>	<b>12,828.5</b>	<b>32</b>	<b>300.1</b>	<b>3</b>
Iowa	6,114.7	4	857.4	6	—	—	2,654.1	6	138.2	1
Kansas	3,227.4	1	4,509.0	7	403.7	2	3,005.1	10	—	—
Missouri	30,582.1	10	—	—	4,407.4	5	4,519.3	8	161.9	2
Nebraska	2,327.9	7	—	—	46.8	1	2,650.0	8	—	—
<b>Eastern—Total</b>	<b>148,566.1</b>	<b>87</b>	<b>5,042.8</b>	<b>7</b>	<b>26,937.3</b>	<b>31</b>	<b>23,401.3</b>	<b>67</b>	<b>1,618.4</b>	<b>13</b>
Delaware	—	—	—	—	63.0	1	—	—	—	—
District of Columbia	—	—	—	—	—	—	—	—	179.0	1
Maryland	16,808.2	5	—	—	1,104.9	3	2,729.0	5	34.5	1
New Jersey	10,851.3	5	562.7	1	2,582.6	3	1,135.4	2	—	—
New York	65,837.5	35	3,062.0	3	12,083.4	11	7,067.5	23	662.0	8
Pennsylvania	40,842.3	23	1,103.1	1	5,675.2	8	5,269.6	16	494.8	2
Virginia	11,255.4	12	315.0	2	5,428.2	5	5,849.3	13	248.1	1
West Virginia	2,971.4	7	—	—	—	—	1,350.5	8	—	—
<b>Great Lakes—Total</b>	<b>126,799.4</b>	<b>87</b>	<b>9,987.3</b>	<b>22</b>	<b>37,986.4</b>	<b>37</b>	<b>28,858.1</b>	<b>69</b>	<b>1,557.6</b>	<b>10</b>
Illinois	42,853.4	24	2,415.9	3	16,761.4	9	5,481.9	18	180.0	1
Indiana	23,241.0	13	1,663.3	2	4,029.3	6	2,925.2	8	180.0	1
Michigan	17,103.0	17	2,503.8	6	4,377.7	6	5,320.9	12	343.0	2
Minnesota	7,974.3	7	459.5	2	76.5	1	3,423.2	5	234.6	1
N. Dakota	3,709.1	6	898.5	3	—	—	1,826.5	5	110.0	1
Ohio	21,960.6	7	670.8	2	8,448.1	11	4,801.0	12	315.0	2
S. Dakota	2,073.6	2	1,150.5	3	—	—	1,887.2	5	150.0	1
Wisconsin	7,884.4	11	225.0	1	4,293.4	4	3,192.2	4	45.0	1
<b>New England—Total</b>	<b>33,117.7</b>	<b>28</b>	<b>2,856.1</b>	<b>1</b>	<b>4,546.6</b>	<b>2</b>	<b>2,731.8</b>	<b>12</b>	<b>456.6</b>	<b>2</b>
Connecticut	6,870.0	5	—	—	3,677.4	1	—	—	—	—
Maine	3,781.8	5	—	—	—	—	846.1	5	456.6	2
Massachusetts	13,091.2	10	—	—	869.2	1	1,437.0	4	—	—
New Hampshire	1,540.6	2	2,856.1	1	—	—	122.7	1	—	—
Rhode Island	6,821.4	4	—	—	—	—	—	—	—	—
Vermont	1,012.6	2	—	—	—	—	326.0	2	—	—
<b>Northwest Mountain—Total</b>	<b>114,194.2</b>	<b>55</b>	<b>5,827.1</b>	<b>12</b>	<b>12,769.5</b>	<b>11</b>	<b>23,036.3</b>	<b>70</b>	<b>806.3</b>	<b>8</b>
Colorado	68,071.9	12	1,185.7	3	4,777.0	3	5,962.0	11	127.5	2
Idaho	5,463.9	6	753.2	1	—	—	2,299.7	6	—	—
Montana	1,678.4	4	562.2	2	—	—	3,596.1	11	79.7	1
Oregon	2,695.6	5	1,733.0	2	—	—	3,172.0	13	—	—
Utah	9,360.7	5	607.0	2	1,200.0	1	2,343.2	9	161.8	2
Washington	23,033.8	14	986.0	2	6,792.5	7	3,285.2	13	400.3	2
Wyoming	3,889.9	9	—	—	—	—	2,378.1	7	37.0	1
<b>Southern—Total</b>	<b>182,984.0</b>	<b>108</b>	<b>3,506.1</b>	<b>4</b>	<b>27,203.2</b>	<b>35</b>	<b>25,533.8</b>	<b>96</b>	<b>924.8</b>	<b>7</b>
Alabama	7,523.1	11	571.1	1	—	—	2,697.3	9	174.4	1
Florida	57,409.1	29	2,683.0	2	11,871.8	18	5,156.9	20	64.4	1
Georgia	30,558.8	8	—	—	10,369.2	6	3,151.6	15	325.0	2
Kentucky	12,283.3	8	—	—	—	—	2,705.7	14	—	—
Mississippi	4,212.5	11	—	—	499.8	1	2,591.1	13	117.9	1
N. Carolina	18,813.6	18	—	—	2,903.3	5	3,142.0	9	40.6	1
Puerto Rico	3,322.0	6	—	—	—	—	—	—	202.5	1
S. Carolina	10,223.4	8	—	—	600.0	1	3,274.4	10	—	—
Tennessee	35,532.8	7	252.0	1	959.1	4	2,814.8	6	—	—
Virgin Island	3,105.4	2	—	—	—	—	—	—	—	—
<b>Southwest—Total</b>	<b>84,374.3</b>	<b>52</b>	<b>1,852.0</b>	<b>5</b>	<b>39,770.7</b>	<b>21</b>	<b>27,467.5</b>	<b>43</b>	<b>1,342.4</b>	<b>10</b>
Arkansas	10,879.7	8	—	—	3,000.0	2	2,522.1	5	—	—
Louisiana	11,698.6	12	—	—	241.0	1	4,615.5	7	389.3	2
New Mexico	461.5	1	1,652.0	4	—	—	3,206.8	6	235.4	2
Oklahoma	3,014.0	2	—	—	5,689.2	4	3,491.0	9	45.3	1
Texas	58,320.5	29	200.0	1	30,839.6	14	13,632.1	16	672.4	5
<b>Western-Pacific—Total</b>	<b>128,612.7</b>	<b>64</b>	<b>6,231.1</b>	<b>6</b>	<b>15,462.1</b>	<b>18</b>	<b>20,527.6</b>	<b>47</b>	<b>1,081.3</b>	<b>5</b>
Arizona	22,957.7	9	3,960.6	4	1,872.1	4	4,247.0	14	225.0	1
California	64,864.5	35	590.4	1	12,930.0	13	12,748.4	27	856.3	4
Hawaii	12,896.2	10	—	—	—	—	553.3	2	—	—
Nevada	25,318.1	5	—	—	660.0	1	2,978.9	4	—	—
South Pacific	2,576.2	5	1,680.1	1	—	—	—	—	—	—

<sup>1</sup> Excludes Puerto Rico, Virgin Islands, and South Pacific.

<sup>2</sup> American Samoa, Guam, North Mariana and Trust Territories.

#### IV. AIRPORT ACTIVITY OF CERTIFICATED ROUTE AIR CARRIERS

The data presented in this chapter were obtained from information reported quarterly to the Department of Transportation's Research and Special Programs Administration (RSPA) by the large scheduled certificated air carriers on Schedules T-3(a)(b)(c), RSPA Form 41, Uniform System of Accounts and Reports for Large Certificated Air Carriers. These statistics summarize domestic and international, scheduled and non scheduled service revenue; passenger enplanements; aircraft departures; and tons of freight, express, and mail enplaned at certificated points in the 50 States, the District of Columbia, other U.S. areas, and foreign countries served by the carriers.

This chapter covers only the large scheduled certificated air carriers;\* and thus excludes the charter only, small certificated, commuter, intrastate and foreign-flag air carriers. Note that this chapter covers only a subset of the carriers covered by Chapter VI—U.S. Certificated Air Carriers—Operating Data.

The activity information in Tables 4.5-4.9 is presented by "hubs". Air traffic hubs are geographical areas, and are based on the percentage of total passengers enplaned in the area. A hub may have more than one airport in it. This definition of hub should not be confused with the definition being used by the airlines in describing their "hub and spoke" structures. The hubs constitute a primary focal point for the transportation research programs of the FAA, and the analyses of individual cities within an area are treated in relationship to the entire area.

Individual communities fall into four hub classifications as determined by each community's percentage of the total enplaned revenue passengers in all services and all operations of U.S. certificated route air carriers within the 50 States, the District of Columbia, and other U.S. areas. Classifications in this issues are based on 429,654,602 total enplaned revenue passengers.

The percentage and number of enplaned passengers in the hub classifications for 12 months ending December 31, 1989 are:

Hub Classification	Percentage of Total Enplaned Passengers	Number of Enplaned Passengers
Large (L) .....	1.00 or more	4,296,546 or more
Medium (M).....	0.25 to 0.99	1,074,137 to 4,296,545
Small (S) .....	0.05 to 0.24	214,827 to 1,074,136
Nonhub (N).....	less than 0.05	less than 214,827

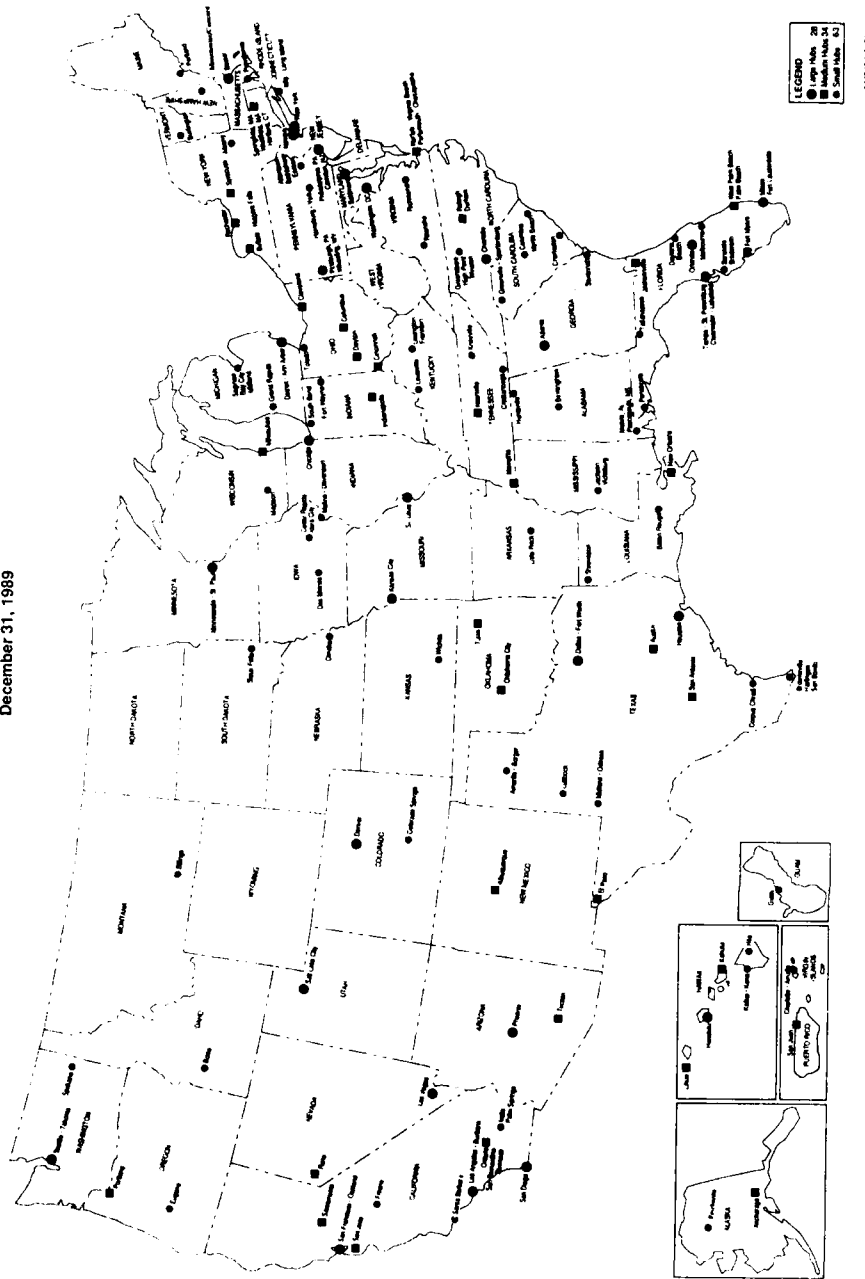
During 1989 there were 125 air traffic hubs representing 25% of the 498 air traffic hubs and nonhubs in the 50 states, the District of Columbia, and other U. S. areas receiving air carrier service during the year. The dominance of the hubs in air traffic patterns is brought out by the fact that 98% of passenger enplanements were recorded at these 125 hubs. The table below shows the number of hubs/nonhubs and the number of airports in those hubs. It also shows the number and percentage of passenger enplanements at the hubs/nonhubs.

Hub Classification	Number of Hubs/ Nonhubs	Number of Airports	Enplaned Number	Passengers Percent
Large.....	28	53	313,779,281	73
Medium.....	34	39	76,097,543	18
Small.....	63	63	30,032,059	7
Nonhub.....	373	381	9,745,719	3
TOTAL.....	498	544	429,654,602	100

\* Large Certificated Air Carrier—carrier holding a certificate issued under Section 401 of the Federal Aviation Act of 1958 and operating aircraft designed to have a maximum passenger seating capacity of more than 60 seats or a maximum payload capacity of more than 18,000 pounds or conducting international operations.



# Air Traffic Hubs December 31, 1989



**TABLE 4.1**  
**LARGE SCHEDULED CERTIFICATED AIR CARRIERS**  
**AS OF DECEMBER 31, 1989**

Aerial Transit	Hawaiian Airlines
Air America	Horizon Air
Air Transport	Markair
Air Wisconsin	MGM Grand
Alaska Airlines	Midway Airlines
Aloha Airlines	Midwest Express Airlines
America West Airlines	Northern Air Cargo
American Airlines	Northwest Airlines
American Trans Air	Pacific Interstate
Amerijet	Pan American World Airways
Arrow Air	Piedmont Aviation
Aspen Airways	Presidential Airways
Braniff	Reeve Aleutian Airways
Challenge Air Transport	Rosenbalm
Conner	Southwest Airlines
Continental Air Lines	Tower Air
Delta Air Lines	Trans World Airlines
Eastern Air Lines	Trump Shuttle
Emerald Air	United Air Lines
Federal Express	U.S. Air
Flying Tiger Line	Westair

**TABLE 4.2 <sup>1</sup>**  
**AMERICAN FLAG AIRLINE TRAFFIC ENPLANED--SYSTEM TOTAL**  
**LARGE SCHEDULED CERTIFICATED AIR CARRIERS**  
**SCHEDULED AND NONSCHEDULED OPERATIONS**  
**1980-1989**

Year	Enplaned Passengers			Air Carrier Aircraft Departures	Tons of Enplaned Mail	Tons of Enplaned Cargo
	Total	Domestic	International			
1980.....	296,860,910	272,786,428	24,074,482	5,332,898	1,583,114.3	3,979,762.0
1981.....	281,379,313	260,937,062	20,442,251	5,136,293	1,220,857.0	3,158,342.5
1982.....	292,538,822	272,449,376	19,789,450	4,921,628	1,247,351.2	2,951,619.9
1983.....	319,886,291	297,484,708	22,401,583	5,043,040	1,293,103.6	3,219,495.8
1984.....	344,831,718	321,136,409	23,695,309	5,449,541	1,389,154.7	3,579,216.1
1985.....	381,108,118	356,103,027	25,005,091	5,696,217	1,486,900.6	3,415,759.7
1986.....	418,563,577	393,267,950	25,295,582	6,401,599	2,066,173.6	4,718,544.1
1987.....	448,913,726	417,869,993	31,043,733	6,640,400	1,621,734.2	5,073,264.9
1988.....	456,026,372	420,326,215	35,700,157	6,724,445	1,717,738.7	5,860,039.0
1989.....	455,263,066	417,644,895	37,618,171	6,648,452	1,631,316.3	6,573,790.5

<sup>1</sup> Includes operations of certificated all-cargo carriers.

Source: RSPA-FAA Airport Activity Statistics of Certificated Route Air Carriers.

**TABLE 4.3 <sup>1</sup>**  
**AMERICAN FLAG AIRLINE TRAFFIC ENPLANED--50 STATES**  
**LARGE SCHEDULED CERTIFICATED AIR CARRIERS**  
**SCHEDULED AND NONSCHEDULED OPERATIONS**  
**1980-1989**

Year	Enplaned Passengers			Air Carrier Aircraft Departures	Tons of Enplaned Mail	Tons of Enplaned Cargo
	Total	Domestic	International			
1980.....	278,957,991	269,585,572	9,372,419	5,131,204	1,520,132.5	3,504,028.3
1981.....	263,684,851	256,007,148	7,677,703	4,940,700	1,160,808.6	2,643,964.8
1982.....	275,540,455	268,118,227	7,422,228	4,716,900	1,185,857.7	2,389,304.9
1983.....	301,347,773	292,962,603	8,385,170	4,825,467	1,227,581.1	2,558,106.8
1984.....	325,233,918	316,280,548	8,953,370	5,232,782	1,310,016.9	2,749,633.9
1985.....	360,710,517	351,346,625	9,363,892	5,476,633	1,416,643.1	2,548,025.1
1986.....	396,961,967	387,599,481	9,362,486	6,153,247	1,980,248.3	3,728,296.2
1987.....	422,747,715	411,311,165	11,436,550	6,372,793	1,534,719.8	3,948,060.7
1988.....	426,937,914	413,790,076	13,147,838	6,426,421	1,626,030.8	4,550,772.8
1989.....	425,103,192	411,139,530	13,963,662	6,331,555	1,537,234.6	5,116,092.4

<sup>1</sup> Includes operations of certificated all-cargo carriers.

Source: RSPA-FAA Airport Activity Statistics of Certificated Route Air Carriers.

**TABLE 4.4 <sup>1</sup>**  
**AMERICAN FLAG AIRLINE TRAFFIC ENPLANED--U.S. TERRITORIES**  
**LARGE SCHEDULED CERTIFICATED AIR CARRIERS**  
**SCHEDULED AND NONSCHEDULED OPERATIONS**  
**1980-1989**

Year	Enplaned Passengers			Air Carrier Aircraft Departures	Tons of Enplaned Mail	Tons of Enplaned Cargo
	Total	Domestic	International			
1980.....	2,450,861	454	2,450,407	25,644	5,992.8	58,159.1
1981.....	2,221,106	1,807,670	413,436	21,080	6,135.3	56,561.2
1982.....	2,210,575	1,718,635	491,940	28,414	5,770.7	56,612.0
1983.....	2,372,861	1,788,115	584,746	34,942	6,035.8	68,088.1
1984.....	2,537,084	1,888,024	649,060	34,196	6,746.3	69,167.6
1985.....	2,630,980	1,940,298	690,682	29,026	6,799.9	53,001.9
1986.....	3,046,033	2,249,694	796,339	38,960	6,856.5	62,206.8
1987.....	4,068,330	2,940,763	1,127,567	39,690	7,389.6	66,511.0
1988.....	4,478,219	3,081,000	1,397,219	43,435	8,143.1	75,496.4
1989.....	4,551,410	2,974,207	1,577,203	41,978	7,693.8	83,661.0

<sup>1</sup> Includes operations of certificated all-cargo carriers.

Source: RSPA-FAA Airport Activity Statistics of Certificated Route Air Carriers.

**TABLE 4.5 <sup>1</sup>**  
**AMERICAN FLAG AIRLINE TRAFFIC ENPLANED--FOREIGN COUNTRIES**  
**LARGE SCHEDULED CERTIFICATED AIR CARRIERS**  
**SCHEDULED AND NONSCHEDULED OPERATIONS**  
**1980-1989**

Year	Enplaned Passengers			Air Carrier Aircraft Departures	Tons of Enplaned Mail	Tons of Enplaned Cargo
	Total	Domestic	International			
1980.....	15,452,058	3,200,402	12,251,656	176,050	56,989.0	417,574.6
1981.....	15,473,356	3,122,244	12,351,112	174,513	53,913.1	457,816.5
1982.....	14,787,796	2,912,514	11,875,282	176,314	55,722.8	505,703.0
1983.....	16,165,657	2,733,990	13,431,667	182,631	59,486.7	593,300.9
1984.....	17,060,716	2,967,837	14,092,879	182,563	72,391.5	760,414.6
1985.....	17,766,621	2,816,104	14,950,517	190,558	63,477.6	814,732.7
1986.....	18,555,577	3,418,820	15,136,757	209,392	78,068.8	928,041.1
1987.....	22,097,681	3,618,065	18,479,616	227,917	79,624.7	1,058,693.2
1988.....	24,610,239	3,455,139	21,155,100	254,589	83,564.8	1,233,769.8
1989.....	25,608,464	3,531,158	22,077,306	274,919	86,387.8	1,374,037.1

<sup>1</sup> Includes operations of certificated all-cargo carriers.

Source: RSPA-FAA Airport Activity Statistics of Certificated Route Air Carriers.

**TABLE 4.6**  
**SUMMARY OF AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS,**  
**AND ENPLANED REVENUE TONS OF CARGO AND MAIL BY TYPE OF OPERATION,**  
**BY TYPE OF SERVICE, BY CARRIER GROUP, AND BY AIR CARRIER**  
**12 MONTHS ENDED DECEMBER 31, 1989**

Carrier Group Air Carrier	Operation	Service	Aircraft Departures			Enplaned Passengers	Enplaned Revenue Tons				
			Total Performed	Scheduled	Scheduled Completed		Freight	Express	U.S. Mail		Foreign Mail
									Priority	Non-priority	
MAJORS											
AMERICAN	Domestic	S	763506	783531	763001	67035903	279342.36		190249.16	4296.71	
		NS	294			22657					
		AS	763800	783531	763001	67058560	279342.36		190249.16	4296.71	
	International	S	48031	48734	47952	5320682	93436.94		11252.97	195.07	
		NS	6			795					
		AS	48037	48734	47952	5321477	93436.94		11252.97	195.07	
	Total	S	811537	832265	810953	72356585	372779.30		201502.13	4491.78	
		NS	300			23452					
		AS	811837	832265	810953	72380037	372779.30		201502.13	4491.78	
CONTINENTAL	Domestic	S	435957	441994	433255	30177348	122126.96	466.28	88713.83	12.59	2.50
		NS	4081			408474					
		AS	440038	441994	433255	30585822	122126.96	466.28	88713.83	12.59	2.50
	International	S	46871	46785	46129	4780182	97748.69	161.59	4832.85	2.45	310.41
		NS	80			9390					
		AS	46951	46785	46129	4789572	97748.69	161.59	4832.85	2.45	310.41
	Total	S	482828	488779	479384	34957530	219875.65	627.87	93546.68	15.04	312.91
		NS	4161			417864					
		AS	486989	488779	479384	35375394	219875.65	627.87	93546.68	15.04	312.91
DELTA	Domestic	S	812261	818262	810697	65400753	325503.18		275265.68		11.84
		NS	741			44875					
		AS	813002	818262	810697	65445628	325503.18		275265.68		11.84
	International	S	24202	24300	24120	2799403	44536.09		1976.43		1262.19
		NS	19			2795					
		AS	24221	24300	24120	2802198	44536.09		1976.43		1262.19
	Total	S	836463	842562	834817	68200156	370039.27		277242.11		1274.03
		NS	760			47670					
		AS	837223	842562	834817	68247826	370039.27		277242.11		1274.03
EASTERN	Domestic	S	165889	198297	163798	13065841	36663.96		46167.10	181.08	
		NS	159			12689					
		AS	166048	198297	163798	13078530	36663.96		46167.10	181.08	
	International	S	16028	18267	15717	1435443	16688.35		2688.61	157.77	.43
		NS	174			15801					
		AS	16202	18267	15717	1451244	16688.35		2688.61	157.77	.43
	Total	S	181917	216564	179515	14501284	53352.31		48855.71	338.85	.43
		NS	333			28490					
		AS	182250	216564	179515	14529774	53352.31		48855.71	338.85	.43
FEDERAL EXPRESS	Domestic	S	191850	191850	191848	192	1665847.10		4579.00	2706.00	
		NS	673			49986	13372.80				
		AS	192523	191850	191848	50178	1679219.90		4579.00	2706.00	
	International	S	18816	18816	18816		437044.20		7634.00	4204.00	
		NS	461			46948	17879.00				
		AS	19277	18816	18816	46948	454923.20		7634.00	4204.00	
	Total	S	210666	210666	210664	192	2102891.30		12213.00	6910.00	
		NS	1134			96934	31251.80				
		AS	211800	210666	210664	97126	2134143.10		12213.00	6910.00	
FLYING TIGER	Domestic	S	13470	14537	12964		371137.49		7437.41	2419.03	
		NS	4			801					
		AS	13474	14537	12964	801	371137.49		7437.41	2419.03	
	International	S	6692	6744	6015		451638.18		8225.96	4305.67	
		NS	6			333	240.20				
		AS	6698	6744	6015	333	451878.38		8225.96	4305.67	
	Total	S	20162	21281	18979		822775.67		15663.37	6724.70	
		NS	10			1134	240.20				
		AS	20172	21281	18979	1134	823015.87		15663.37	6724.70	
NORTHWEST	Domestic	S	484698	496761	482750	33585771	296532.35		150486.42	1638.23	202.64
		NS	264			69035	725.18				
		AS	484962	496761	482750	33654806	297257.53		150486.42	1638.23	202.64
	International	S	24403	24565	24164	5001416	297081.35		16370.81	6998.98	1872.49
		NS	68			2679	464.52				
		AS	24471	24565	24164	5004095	297545.87		16370.81	6998.98	1872.49
	Total	S	509101	521326	506914	38587187	593613.70		166857.23	8637.21	2075.13
		NS	332			71714	1189.70				
		AS	509433	521326	506914	38658901	594803.40		166857.23	8637.21	2075.13

NOTE: S = Schedule, NS = Nonschedule, and AS = All Service.

**TABLE 4.6-Continued**  
**SUMMARY OF AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS,**  
**AND ENPLANED REVENUE TONS OF CARGO AND MAIL BY TYPE OF OPERATION,**  
**BY TYPE OF SERVICE, BY CARRIER GROUP, AND BY AIR CARRIER**  
**12 MONTHS ENDED DECEMBER 31, 1989**

Carrier Group Air Carrier	Operation	Service	Aircraft Departures			Enplaned Passengers	Enplaned Revenue Tons				
			Total Per-formed	Sched-uled	Scheduled Completed		Freight	Express	U.S. Mail		Foreign Mail
									Priority	Non-priority	
PAN AMERICAN.....	Domestic.....	S	84199	81466	79584	7734042	62609.38		23575.34	668.78	25.26
		NS	74			8067					
		AS	84273	81466	79584	7742109	62609.38		23575.34	668.78	25.26
	International.....	S	87055	89166	86051	9439977	184225.36		34644.84	3676.24	12741.83
		NS	930			126480	494.17				
		AS	87985	89166	86051	9566457	184719.53		34644.84	3676.24	12741.83
	Total.....	S	171254	170632	165635	17174019	246834.74		58220.18	4345.02	12767.09
		NS	1004			134547	494.17				
		AS	172258	170632	165635	17308566	247328.91		58220.18	4345.02	12767.09
PIEDMONT.....	Domestic.....	S	289150	297464	288722	16503911	34852.57		34130.89		
		NS	254			10673					
		AS	289404	297464	288722	16514584	34852.57		34130.89		
PIEDMONT.....	International.....	S	1388	1529	1386	153819	3780.66		1.68		
		S	290538	298993	290108	16657730	38633.23		34132.57		
		NS	254			10673					
		AS	290792	298993	290108	16668403	38633.23		34132.57		
TRANS WORLD.....	Domestic.....	S	292448	298654	291502	21101090	105769.10		125338.37	679.67	
		NS	1436			78520					
		AS	293884	298654	291502	21179610	105769.10		125338.37	679.67	
	International.....	S	28514	28868	28233	4045442	82632.76		17450.97	5089.31	740.83
		NS	6			1327					
		AS	28520	28868	28233	4046769	82632.76		17450.97	5089.31	740.83
	Total.....	S	320962	327522	319735	25146532	188401.86		142789.34	5768.98	740.83
		NS	1442			79847					
		AS	322404	327522	319735	25226379	188401.86		142789.34	5768.98	740.83
UNITED.....	Domestic.....	S	603307	617384	601054	51192041	383651.92		239267.55		
		NS	490			25152					
		AS	603797	617384	601054	51217193	383651.92		239267.55		
	International.....	S	17185	17372	17031	3727261	88471.75		6111.31		1041.64
		NS	11			2143					
		AS	17196	17372	17031	3729404	88471.75		6111.31		1041.64
	Total.....	S	620492	634756	618085	54919302	472123.67		245378.86		1041.64
		NS	501			27295					
		AS	620993	634756	618085	54946597	472123.67		245378.86		1041.64
US AIR.....	Domestic.....	S	743124	764806	741389	44337614	64213.21		114529.29		
		NS	2503			166477					
		AS	745627	764806	741389	44504091	64213.21		114529.29		
	International.....	S	1477	1499	1454	144925	2802.39		11.97		
		S	744601	766305	742843	44482539	67015.60		114541.26		
	Total.....	NS	2503			166477					
		AS	747104	766305	742843	44649016	67015.60		114541.26		
TOTAL, MAJORS.....	Domestic.....	S	4879859	5005006	4860564	350134506	3748249.58	466.28	1299740.04	12602.09	242.24
		NS	10973			897406	14097.98				
		AS	4890832	5005006	4860564	351031912	3762347.56	466.28	1299740.04	12602.09	242.24
	International.....	S	320662	326645	317068	36848550	1800086.72	161.59	111202.40	24629.49	17969.82
		NS	1761			208691	19077.89				
		AS	322423	326645	317068	37057241	1819164.61	161.59	111202.40	24629.49	17969.82
	Total.....	S	5200521	5331651	5177632	386983056	5548336.30	627.87	1410942.44	37231.58	18212.06
		NS	12734			1106097	33175.87				
		AS	5213255	5331651	5177632	388089153	5581512.17	627.87	1410942.44	37231.58	18212.06

NOTE: S = Schedule, NS = Nonschedule, and AS = All Service.

**TABLE 4.6-Continued**  
**SUMMARY OF AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS,**  
**AND ENPLANED REVENUE TONS OF CARGO AND MAIL BY TYPE OF OPERATION,**  
**BY TYPE OF SERVICE, BY CARRIER GROUP, AND BY AIR CARRIER**  
**12 MONTHS ENDED DECEMBER 31, 1989**

Carrier Group Air Carrier	Operation	Service	Aircraft Departures			Enplaned Passengers	Freight	Express	Enplaned Revenue Tons		Foreign Mail
			Total Performed	Scheduled	Scheduled Completed				U.S. Mail		
									Priority	Non-priority	
NATIONALS											
AIR WISCONSIN	Domestic	S	83833	88293	83739	2194975	994.00		1301.00		
ALASKA	Domestic	S	100269	101235	99278	4962791	45729.63		21047.89	11468.59	
		NS	502			26924	332.34		255.34	9.61	
		AS	100771	101235	99278	4989715	46061.97		21303.23	11478.20	
ALOHA	Domestic	S	63875	66880	61153	4001574	51283.21		4949.49		
		NS	128			6428	.87				
		AS	64003	66880	61153	4008002	51284.08		4949.49		
AMERICA WEST	Domestic	S	203563	205041	202896	13300447	34766.38		25789.33		
		NS	1219			93283					
		AS	204782	205041	202896	13393730	34766.38		25789.33		
AMERICAN TRANS	Domestic	S	1132	1132	1132	212613					
		NS	1022			62685					
		AS	2154	1132	1132	275298					
BRANIFF	Domestic	S	62829	64860	62640	4392377	5742.67	170.05	9967.83		
		NS	1049			123021					
		AS	63878	64860	62640	4515398	5742.67	170.05	9967.83		
	International	S	380	386	380	18937	.03		.01		
		NS	27			2997					
		AS	407	386	380	21934	.03		.01		
	Total	S	63209	65246	63020	4411314	5742.70	170.05	9967.84		
		NS	1076			126018					
		AS	64285	65246	63020	4537332	5742.70	170.05	9967.84		
HAWAIIAN	Domestic	S	76118	87646	72686	5118585	15208.63		6963.07	148.23	
		NS	1963			134647			7827.00		
		AS	78081	87646	72686	5253232	15208.63		14790.07	148.23	
	International	S	1838	1849	1729	157856	1059.99		4034.36		
		NS	204			42138					
		AS	2042	1849	1729	199994	1059.99		4034.36		
	Total	S	77956	89495	74415	5276441	16268.62		10997.43	148.23	
		NS	2167			176785			7827.00		
		AS	80123	89495	74415	5453226	16268.62		18824.43	148.23	
HORIZON AIR	Domestic	S	156053	162650	155915	1587148	3677.49		1294.24		
		NS	91			5659					
		AS	156144	162650	155915	1592807	3677.49		1294.24		
MIDWAY	Domestic	S	83579	86170	83441	4681470					
		NS	248			10653			22.25		
		AS	83827	86170	83441	4692123			22.25		
SOUTHWEST	Domestic	S	304333	308798	304333	20240845					
		NS	153			15909					
		AS	304486	308798	304333	20256754					
TOWER	International	S	813	813	813	252609					
		NS	101			42051					
		AS	914	813	813	294660					
TRUMP	Domestic	S	11966	11117	10834	879592				12036.00	
		NS	66			5912					
		AS	12032	11117	10834	885504				12036.00	
ZANTOP	Domestic	S	9937	8896	8018		44299.25				
TOTAL NATIONALS	Domestic	S	1157487	1192718	1146065	61572417	201701.26	170.05	71312.85	23652.82	
		NS	6441			485121	333.21		8104.59	9.61	
		AS	1163928	1192718	1146065	62057538	202034.47	170.05	79417.44	23662.43	
	International	S	3031	3048	2922	429402	1060.02		4034.37		
		NS	332			87186					
		AS	3363	3048	2922	516586	1060.02		4034.37		
	Total	S	1160518	1195766	1148987	62001819	202761.28	170.05	75347.22	23652.82	
		NS	6773			572307	333.21		8104.59	9.61	
		AS	1167291	1195766	1148987	62574126	203094.49	170.05	83451.81	23662.43	

NOTE: S - Schedule; NS - Nonschedule; and AS - All Service.

**TABLE 4.6-Continued**  
**SUMMARY OF AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS,**  
**AND ENPLANED REVENUE TONS OF CARGO AND MAIL BY TYPE OF OPERATION,**  
**BY TYPE OF SERVICE, BY CARRIER GROUP, AND BY AIR CARRIER**  
**12 MONTHS ENDED DECEMBER 31, 1969**

Carrier Group Air Carrier	Operation	Service	Aircraft Departures			Enplaned Passengers	Enplaned Revenue Tons					
			Total Performed	Scheduled	Scheduled Completed		Freight	Express	U.S. Mail Priority	Non-priority	Foreign Mail	
LARGE REGIONALS												
AIR AMERICA	Domestic	S	628	654	608	179955						
		NS	228			20968						
		AS	856	654	608	200923						
ARROW	Domestic	S	589	589	589		5974.90					
		NS	294				9430.70					
		AS	883	589	589		15305.60					
	International	S	337	337	337		9613.29					
		NS	628				18851.40					
		AS	965	337	337		28464.60					
	Total	S	926	926	926		15588.19					
		NS	922				28182.10					
AS		1848	926	926		43770.20						
ASPEN	Domestic	S	29042	30548	28899	798287	937.89		115.03			
		NS	71			1392						
		AS	29113	30548	28899	799679	937.89		115.83			
CHALLENGE	International	S	2819	2819	2819		64318.18		1260.18			
		NS	54				1023.66					
		AS	2873	2819	2819		65341.84		1260.18			
EMERALD	Domestic	S	1791	1835	1791	28570	4.00					
		NS	599			45377						
		AS	2390	1835	1791	73947	4.00					
MARKAIR	Domestic	S	20234	23006	19396	394248	21587.98		2737.91	21545.98		
		NS	229				1366.57					
		AS	20463	23006	19396	394248	22954.55		2737.91	21545.98		
MIDWEST EXPRESS	Domestic	S	17332	17913	17332	615296	1228.04		21.00	4359.00		
		NS	186			8410						
		AS	17518	17913	17332	623706	1228.00		21.00	4359.00		
NORTHERN AIR	Domestic	S	8731	8451	8136		21756.09		286.47	19691.09		
		NS	848				4731.85					
		AS	9579	8451	8136		26487.94		286.47	19691.09		
PRESIDENTIAL	Domestic	S	34335	37771	34350	535662						
REEVE	Domestic	S	3239	3340	3239	52250	1836.12		4224.00			
		NS	1078			15916	1611.26		71.53			
		AS	4317	3340	3239	68166	2847.38		4295.53			
ROSENBALM	International	S	471	471	471		17358.15					
		NS	890				499322.45					
		AS	1361	471	471		516660.60					
WESTAIR	Domestic	S	138245	145152	137862	1824246						
		NS	34			2267	114.22			64.38		
		AS	138279	145152	137862	1826513	114.22			64.38		
TOTAL, LARGE REGIONALS	Domestic	S	254166	269259	252202	4428534	53524.98		5885.51	45755.47		
		NS	3567			94330	16554.60		2055.93	643.88		
		AS	257733	269259	252202	4522864	69879.58		8139.44	45999.45		
TOTAL, LARGE REGIONALS	International	S	3627	3627	3627		91209.51		1562.18			
		NS	1572				519167.51					
		AS	5199	3627	3627		610387.11		1562.18			
	Total	S	257793	272886	255829	4428534	144614.51		9445.63	46399.35		
		NS	5139			94330	535752.11		2055.93	643.88		
		AS	262932	272886	255829	4522864	680366.62		8139.42	45999.45		

NOTE: S = Schedule, NS = Nonschedule, and AS = All Service



**TABLE 4.6-Continued**  
**SUMMARY OF AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS,**  
**AND ENPLANED REVENUE TONS OF CARGO AND MAIL BY TYPE OF OPERATION,**  
**BY TYPE OF SERVICE, BY CARRIER GROUP, AND BY AIR CARRIER**  
**12 MONTHS ENDED DECEMBER 31, 1989**

Carrier Group Air Carrier	Operation	Service	Aircraft Departures			Enplaned Passengers	Enplaned Revenue Tons				
			Total Performed	Scheduled	Scheduled Completed		Freight	Express	U.S. Mail		Foreign Mail
									Priority	Non-priority	
<b>MEDIUM REGIONALS</b>											
AERIAL TRANSIT	International	S	413	411	405		3071.20				
		NS	460				6445.40				
		AS	873	411	405		9516.60				
AIR TRANSPORT	Domestic	S	114	115	114		1822.00				321.00
		NS	5				61.00				
		AS	119	115	114		1883.00				321.00
	International	S	113	114	113		1369.00				736.00
		S	227	229	227		3191.00				1057.00
		NS	5				61.00				
		AS	232	229	227		3252.00				1057.00
	Total	S	1528	770	725		3485.00		843.00		
		NS	253				2414.00				
		AS	1781	770	725		5899.00		843.00		
	International	S		831	643		2680.00		428.00		
		S	1528	1601	1368		6165.00		1271.00		
		NS	253				2414.00				
		AS	1781	1601	1368		8579.00		1271.00		
CONNER	International	S	68	68	68		656.00				
		NS	30				284.00				
		AS	98	68	68		940.00				
MGM GRAND	Domestic	S	1302	1311	1302	31988	8.70			452.88	
		NS	26			593					
		AS	1328	1311	1302	32581	8.70			452.88	
PACIFIC INTERSTATE	International	S	378	378	378	27111	85723.00				
		NS	284			17231					
		AS	662	378	378	44342	85723.00				
TOTAL, MEDIUM REGIONALS	Domestic	S	2944	2196	2141	31988	5315.70		843.00	452.88	321.00
		NS	284			593	2475.00				
		AS	3228	2196	2141	32581	7790.70		843.00	452.88	321.00
	International	S	972	1802	1607	27111	93499.20		428.00		736.00
		NS	774			17231	6729.40				
		AS	1746	1802	1607	44342	100228.60		428.00		736.00
	Total	S	3916	3998	3748	59099	98814.90		1271.00	452.88	1057.00
		NS	1058			17824	9204.40				
		AS	4974	3998	3748	76923	108019.30		1271.00	452.88	1057.00
	OVER-ALL TOTAL, ALL CARRIERS	S	6294456	6469179	6260972	416167445	4008591.52	636.33	1379781.40	82303.86	563.24
		NS	21265			1477450	33460.79		8328.52	78.99	
		AS	6315721	6469179	6260972	417644895	4042052.31	636.33	1388109.92	82382.85	563.24
	International	S	328292	335122	325224	37305063	1985935.47	161.59	116924.95	24629.49	18705.82
		NS	4439			313108	545004.80				
		AS	332731	335122	325224	37618171	2530940.27	161.59	116924.95	24629.49	18705.82
	Total	S	6622748	6804301	6586196	453472508	5994526.99	797.92	1496706.35	106933.35	19269.06
		NS	25704			1790558	578465.59		8328.52	78.99	
		AS	6648452	6804301	6586196	455263066	6572992.58	797.92	1505034.87	107012.34	19269.06

NOTE: S - Schedule, NS - Nonschedule, and AS - All Service

**TABLE 4.7**  
**SUMMARY OF AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS,**  
**AND ENPLANED REVENUE TONS OF CARGO AND MAIL BY TYPE OF OPERATION,**  
**BY TYPE OF SERVICE, AND BY STATE AND COUNTRY**  
**12 MONTHS ENDED DECEMBER 31, 1989**

State or County	Operation	Service	Aircraft Departments			Enplaned Passengers	Enplaned Revenue Tons				
			Total Performed	Scheduled	Scheduled Completed		Freight	Express	U.S. Mail		Foreign Mail
									Priority	Non-priority	
50 U. S. STATES											
ALABAMA	Domestic	S	39335	40498	39174	1829884	11868.07	1.00	5131.75	1.00	
		NS	24		1620						
		AS	39359	40498	39174	1831504	11868.07	1.00	5131.75	1.00	
ALASKA	Domestic	S	75819	81557	73361	2202868	288839.01		18753.61	53912.23	64.38
		NS	2417			44342	8084.42		223.93	9.61	
		AS	78236	81557	73361	2247210	296923.43		18977.54	53921.84	64.38
	International	S	2942	2930	2829	2379	199008.77		4097.84	1332.39	57.34
		NS	338			18444	100054.96				
		AS	3280	2930	2829	20823	299063.73		4097.84	1332.39	57.34
	Total	S	78761	84487	76190	2205247	487847.78		22851.45	55244.62	121.72
		NS	2755			62786	108139.38		223.93	9.61	
AS		81516	84487	76190	2268033	595987.16		23075.38	55254.23	121.72	
ARIZONA	Domestic	S	168258	169701	167781	11528531	43693.87	25	20697.50	.10	
		NS	608			20258	2426.19				
		AS	168866	169701	167781	11548789	46120.06	.25	20697.50	.10	
	International	S	363	471	451	19571	949.80		223.02		
		NS	2								
		AS	365	471	451	19571	949.80		223.02		
	Total	S	168621	170172	168232	11548102	44643.67	.25	20920.52	.10	
		NS	610			20258	2426.19				
AS		169231	170172	168232	11568360	47069.86	.25	20920.52	.10		
ARKANSAS	Domestic	S	15379	15544	15311	947149	730.37		3110.76		
		NS	7			394					
		AS	15386	15544	15311	947543	730.37		3110.76		
CALIFORNIA	Domestic	S	748213	768891	746132	50674548	617134.26	34.79	147250.31	3500.67	24.35
		NS	2330			212851	6427.26			69.38	
		AS	750543	768891	746132	50887399	623561.52	34.79	147250.31	3570.05	24.35
	International	S	9514	9923	9746	1589934	28477.01	.35	5110.06	382.88	22.62
		NS	201			6141	54983.56				
		AS	9715	9923	9746	1596075	83460.57	.35	5110.06	382.88	22.62
	Total	S	757727	778814	755878	52264482	645611.27	35.14	152360.37	3883.55	46.97
		NS	2531			218992	61410.82			69.38	
AS		760258	778814	755878	52483474	707022.09	35.14	152360.37	3952.93	46.97	
COLORADO	Domestic	S	189752	193197	189253	13307700	71101.60	5.50	42918.60	336.61	
		NS	462			22695	221.27				
		AS	190214	193197	189253	13330395	71322.87	5.50	42918.60	336.61	
	International	S	256	257	254	40114	493.75		61.83		
		NS	5			151					
		AS	261	257	254	40265	493.75		61.83		
	Total	S	190008	193454	189507	13347814	71595.35	5.50	42980.43	336.61	
		NS	467			22846	221.27				
AS		190475	193454	189507	13370660	71816.62	5.50	42980.43	336.61		
CONNECTICUT	Domestic	S	30932	31793	30772	2269809	7612.27	.36	15477.11		
		NS	33			760			1.45		
		AS	30965	31793	30772	2270569	7612.27	.36	15478.56		
	International	S	36	1	1	51	1.76		4.55		
		NS	5			404					
		AS	41	1	1	455	1.76		4.55		
	Total	S	30968	31794	30773	2269860	7614.03	.36	15481.66		
		NS	38			1164			1.45		
AS		31006	31794	30773	2271024	7614.03	.36	15483.11			
DELAWARE	Domestic	S	2	2	2						
		NS	2	2	2		178.00				
		AS	28				1538.10				
	International	S	30	2	2		1716.10				
		NS	4	4	4		178.00				
		AS	28				1538.10				
DIST. OF COL.	Domestic	S	166948	171940	165088	11169508	58301.98	7.09	48908.45	5797.80	.40
		NS	147			8907	16.20				
		AS	167095	171940	165088	11178415	58318.18	7.09	48908.45	5797.80	.40
	International	S	1358	1379	1348	260678	5310.74		5207.33	8.51	
		NS	147			8907	16.20				
		AS	168451	173319	166434	11430186	63612.72	7.09	54115.78	5806.31	.40
	Total	S	168304	173319	166434	11430186	63612.72	7.09	54115.78	5806.31	.40
		NS	147			8907	16.20				
		AS	168451	173319	166434	11439093	63628.92	7.09	54115.78	5806.31	.40

NOTE: S = Schedule, NS = Nonschedule, and AS = All Service.

**TABLE 4.7-Continued**  
**SUMMARY OF AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS,**  
**AND ENPLANED REVENUE TONS OF CARGO AND MAIL BY TYPE OF OPERATION,**  
**BY TYPE OF SERVICE, AND BY STATE AND COUNTRY**  
**12 MONTHS ENDED DECEMBER 31, 1989**

State or County	Operation	Service	Aircraft Departments			Enplaned Passen- gers	Enplaned Revenue Tons				
			Total Per- formed	Sched- uled	Scheduled Completed		Freight	Express	U.S. Mail		Foreign Mail
									Priority	Non- priority	
FLORIDA .....	Domestic .....	S	376414	388153	374493	29510940	171474.32	16.30	64231.48	94.41	3.35
		NS	1777			166620	961.45				
		AS	378191	388153	374493	29677560	172435.77	16.30	64231.48	94.41	3.35
	International .....	S	18410	19235	18276	2012441	159401.52	.01	6925.02	476.10	10.53
		NS	1326			39324	18934.69				
		AS	19736	19235	18276	2051765	178336.21	.01	6925.02	476.10	10.53
	Total .....	S	394824	407388	392769	31523381	330875.84	16.31	71156.50	570.51	13.88
		NS	3103			205944	19896.14				
		AS	397927	407388	392769	31729325	350771.98	16.31	71156.50	570.51	13.88
	Domestic .....	S	245261	257412	244685	20577123	117182.57	2.15	92222.35	312.96	
		NS	279			12147	374.60				
		AS	245540	257412	244685	20589270	117557.17	2.15	92222.35	312.96	
	International .....	S	3585	3618	3577	526181	11556.92		933.08		
		NS	8			1341					
		AS	3593	3618	3577	527522	11556.92		933.08		
	Total .....	S	248846	261030	248262	21103304	128739.49	2.15	93155.43	312.96	
		NS	287			13488	374.60				
		AS	249133	261030	248262	21116792	129114.09	2.15	93155.43	312.96	
HAWAII .....	Domestic .....	S	157340	169351	151388	12747190	186455.01	80.04	19347.25	695.60	7.13
		NS	1819			118775	.87		7827.00		
		AS	159159	169351	151388	12865965	186455.88	80.04	27174.25	695.60	7.13
	International .....	S	5221	5296	5182	1221377	32465.25	69.39	6755.36	240.22	9.83
		NS	122			21752	946.40				
		AS	5343	5296	5182	1243129	33411.65	69.39	6755.36	240.22	9.83
	Total .....	S	162561	174647	156570	13968567	218920.20	149.43	26102.61	935.82	16.96
		NS	1941			140527	947.27		7827.00		
		AS	164502	174647	156570	14109094	219867.53	149.43	33929.61	935.82	16.96
IDAHO .....	Domestic .....	S	35015	35882	34930	727689	3901.41		2055.39	15.00	
		NS	38			1845					
		AS	35053	35882	34930	729534	3901.41		2055.39	15.00	
ILLINOIS .....	Domestic .....	S	390146	403083	389298	29023021	294926.17	12.44	131251.09	625.38	2.74
		NS	357			16579	289.10		1.05		
		AS	390503	403083	389298	29039600	295215.27	12.44	131252.14	625.38	2.74
	International .....	S	3492	3519	3483	490407	15356.86		4957.09	9.74	
		NS	1				72.90				
		AS	3493	3519	3483	490407	15429.76		4957.09	9.74	
	Total .....	S	393638	406602	392781	29513428	310283.03	12.44	136208.18	635.12	2.74
		NS	358			16579	362.00		1.05		
		AS	393996	406602	392781	29530007	310645.03	12.44	136209.23	635.12	2.74
INDIANA .....	Domestic .....	S	65227	66696	64714	3123017	63736.28	1.04	11095.75	62.00	
		NS	895			42745					
		AS	66122	66696	64714	3165762	63736.28	1.04	11095.75	62.00	
	International .....	S	2								
		NS	65229	66696	64714	3123017	63736.28	1.04	11095.75	62.00	
		AS	895			42745					
IOWA .....	Domestic .....	S	25209	25676	25067	1040409	7816.29		9296.56		
		NS	34			1594					
		AS	25243	25676	25067	1042003	7816.29		9296.56		
KANSAS .....	Domestic .....	S	14882	15087	14760	591750	9047.25	23.52	2834.09	12.89	
		NS	34			867					
		AS	14916	15087	14760	592617	9047.25	23.52	2834.09	12.89	
KENTUCKY .....	Domestic .....	S	32363	32991	32276	1240951	7285.96		7143.39		
		NS	54			3410	294.43				
		AS	32417	32991	32276	1244361	7580.39		7143.39		
	International .....	S	15								
		NS	32363	33006	32276	1240951	7285.96		7143.39		
		AS	54			3410	294.43				
	Total .....	AS	32417	33006	32276	1244361	7580.39		7143.39		

NOTE: S=Schedule, NS=Nonschedule, and AS=All Service.

**TABLE 4.7-Continued**  
**SUMMARY OF AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS,**  
**AND ENPLANED REVENUE TONS OF CARGO AND MAIL BY TYPE OF OPERATION,**  
**BY TYPE OF SERVICE, AND BY STATE AND COUNTRY**  
**12 MONTHS ENDED DECEMBER 31, 1989**

State or County	Operation	Service	Aircraft Departments			Enplaned Passen- gers	Enplaned Revenue Tons				
			Total Per- formed	Sched- uled	Scheduled Completed		Freight	Express	U.S. Mail		Foreign Mail
									Priority	Non- priority	
LOUISIANA	Domestic	S	65772	66768	65391	3992747	22441.65	.78	9325.66	13.40	
		NS	70			4583					
	International	AS	65842	66768	65391	3997330	22441.65	.78	9325.66	13.40	
		S	274	273	265	20452	16.76				
	Total	NS	9			516					
		AS	283	273	265	20968	16.76				
		S	66046	67041	65656	4013199	22458.41	.78	9325.66	13.40	
		NS	79			5099					
	AS	66125	67041	65656	4018298	22458.41	.78	9325.66	13.40		
MAINE	Domestic	S	10129	10290	10104	578449	3790.05		1641.52		.31
		NS	6			2034					
	International	AS	10135	10290	10104	580483	3790.05		1641.52		.31
		S	258	1	1	270	45.20				
	Total	NS	2			537					
		AS	260	1	1	807	45.20				
		S	10387	10291	10105	578719	3835.25		1641.52		.31
		NS	8			2571					
	AS	10395	10291	10105	581290	3835.25		1641.52		.31	
MARYLAND	Domestic	S	74360	76346	73529	4348780	16956.74	.03	18965.74	75.61	
		NS	126			4503					
	International	AS	74486	76346	73529	4353283	16956.74	.03	18965.74	75.61	
		S	900	944	892	98616	801.18		742.96	51.51	
	Total	NS	7			432					
		AS	907	944	892	99048	801.18		742.96	51.51	
		S	75260	77290	74421	4447396	17757.92	.03	19708.70	127.12	
		NS	133			4935					
	AS	75393	77290	74421	4452331	17757.92	.03	19708.70	127.12		
MASSACHUSETTS	Domestic	S	109317	111541	107553	9234420	98214.06	.98	27843.06	2162.96	17.24
		NS	430			35859					
	International	AS	109747	111541	107553	9270279	98214.06	.98	27843.06	2162.96	17.24
		S	2893	2882	2852	520575	12945.92		1197.62	16.18	25
	Total	NS	1			30.80					
		AS	2894	2882	2852	520575	12976.72		1197.62	16.18	25
		S	112210	114423	110405	9754995	111159.98	.98	29040.68	2179.14	17.49
		NS	431			35859	30.80				
	AS	112641	114423	110405	9790854	111190.78	.98	29040.68	2179.14	17.49	
MICHIGAN	Domestic	S	171662	177342	171592	11183475	52025.14	4.60	35760.83	86.45	.46
		NS	606			64400			1.55		
	International	AS	172268	177342	171592	11247875	52025.14	4.60	35762.38	86.45	.46
		S	1126	1138	1122	221264	2853.14		967.67		
	Total	S	172788	178480	172714	11404739	54878.28	4.60	36728.50	86.45	.46
		NS	606			64400			1.55		
		AS	173394	178480	172714	11469139	54878.28	4.60	36730.05	86.45	.46
MINNESOTA	Domestic	S	117862	120916	117664	8579321	61616.03	3.44	41212.90	37.09	38.70
		NS	386			54551	10.07		.63		
	International	AS	118248	120916	117664	8633872	61626.10	3.44	41213.53	37.09	38.70
		S	346	343	339	83099	3537.46		74.13		1.80
	Total	NS	18			114	601.93				
		AS	364	343	339	83213	4139.39		74.13		1.80
		S	118208	121259	118003	8662420	65153.49	3.44	41287.03	37.09	40.50
		NS	404			54665	612.00		.63		
	AS	118612	121259	118003	8717085	65765.49	3.44	41287.66	37.09	40.50	
MISSISSIPPI	Domestic	S	10445	10566	10407	466633	535.66		1936.10		
		NS	1			124					
		AS	10446	10566	10407	466757	535.66		1936.10		
MISSOURI	Domestic	S	206777	211142	206007	13717677	60268.50	101.03	63126.73	69.56	
		NS	606			36485					
	International	AS	207383	211142	206007	13754162	60268.50	101.03	63126.73	69.56	
		S	608	612	608	92860	1951.17		251.29	23.73	
	Total	S	207385	211754	206615	13810537	62219.67	101.03	63378.02	93.29	
		NS	606			36485					
		AS	207991	211754	206615	13847022	62219.67	101.03	63378.02	93.29	

NOTE: S = Schedule, NS = Nonschedule, and AS = All Service.

**TABLE 4.7-Continued**  
**SUMMARY OF AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS,**  
**AND ENPLANED REVENUE TONS OF CARGO AND MAIL BY TYPE OF OPERATION,**  
**BY TYPE OF SERVICE, AND BY STATE AND COUNTRY**  
**12 MONTHS ENDED DECEMBER 31, 1989**

State or County	Operation	Service	Aircraft Departments			Enplaned Passengers	Enplaned Revenue Tons				
			Total Per-formed	Sched-uled	Scheduled Completed		Freight	Express	U.S. Mail		Foreign Mail
									Priority	Non-priority	
MONTANA	Domestic	S	33707	34133	33294	677907	9109.51	.11	2925.42		
		NS	10			707					
		AS	33717	34133	33294	678614	9109.51	.11	2925.42		
	International	S	3								
		NS	33710	34133	33294	677907	9109.51	.11	2925.42		
		AS	33720	34133	33294	678614	9109.51	.11	2925.42		
NEBRASKA	Domestic	S	26702	26902	26431	1205597	5604.92	1.57	12149.40	67.09	
		NS	79			2083					
		AS	26781	26902	26431	1207680	5684.82	1.57	12149.40	67.09	
NEVADA	Domestic	S	106208	107217	105860	8279503	14924.94	.57	11292.03	2.95	
		NS	724			107081					
		AS	106932	107217	105860	8386584	14924.94	.57	11292.03	2.95	
	International	S	6								
		NS	106214	107217	105860	8279503	14924.94	.57	11292.03	2.95	
		AS	106938	107217	105860	8386584	14924.94	.57	11292.03	2.95	
NEW HAMPSHIRE	Domestic	S	5151	5220	5143	228766	6743.06		884.44		
		NS	2			108					
		AS	5153	5220	5143	228874	6743.06		884.44		
	International	S		210		21974	262.45				
		NS	5151	5430	5353	250740	7005.51		884.44		
		AS	5153	5430	5353	250848	7005.51		884.44		
NEW JERSEY	Domestic	S	126521	129740	125504	9374561	123018.08	15.47	31571.99	1547.49	
		NS	1246			111149	35.10				
		AS	127767	129740	125504	9485710	123053.18	15.47	31571.99	1547.49	
	International	S	3414	3459	3404	426820	15159.18	.60	389.51	.09	1.14
		NS	27			2453	35.10				
		AS	3441	3459	3404	429273	15194.28	.60	389.51	.09	1.14
	Total	S	129935	133199	128908	9801381	138177.26	16.07	31961.50	1547.58	1.14
		NS	1273			113602	70.20				
		AS	131208	133199	128908	9914983	138247.46	16.07	31961.50	1547.58	1.14
NEW MEXICO	Domestic	S	36541	36825	36475	2347926	4762.63	.02	4814.09	1.62	
		NS	37			2119					
		AS	36578	36825	36475	2350045	4762.63	.02	4814.09	1.62	
NEW YORK	Domestic	S	301642	309707	297814	22560293	195530.07	9.25	88372.35	8402.43	342.20
		NS	817			42986	485.20		2.13		
		AS	302459	309707	297814	22603279	196015.27	9.25	88374.48	8402.43	342.20
	International	S	21314	21734	21246	3985423	89391.49		26103.02	4485.62	164.00
		NS	122			46306	242.29				
		AS	21436	21734	21246	4031729	89633.78		26103.02	4485.62	164.00
	Total	S	322956	331441	319060	26545716	284921.56	9.25	114475.37	12888.05	506.20
		NS	939			89292	727.49		2.13		
		AS	323895	331441	319060	26635008	285649.05	9.25	114477.50	12888.05	506.20
NORTH CAROLINA	Domestic	S	208542	215730	208090	12306758	56293.58		28737.37	3.47	
		NS	71			4143					
		AS	208613	215730	208090	12310901	56293.58		28737.37	3.47	
	International	S	1598	1660	1602	157559	4932.59		143.45	.22	
		NS	210140	217390	209692	12464317	61226.17		28880.82	3.69	
		AS	210211	217390	209692	12468460	61226.17		28880.82	3.69	
NORTH DAKOTA	Domestic	S	13860	13984	13805	499872	3077.99		1369.07		
		NS	10			679					
		AS	13870	13984	13805	500551	3077.99		1369.07		
	International	S	2								
		NS	13862	13984	13805	499872	3077.99		1369.07		
		AS	13872	13984	13805	500551	3077.99		1369.07		

NOTE S - Schedule, NS - Nonschedule, and AS - All Service

**TABLE 4.7-Continued**  
**SUMMARY OF AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS,**  
**AND ENPLANED REVENUE TONS OF CARGO AND MAIL BY TYPE OF OPERATION,**  
**BY TYPE OF SERVICE, AND BY STATE AND COUNTRY**  
**12 MONTHS ENDED DECEMBER 31, 1989**

State or County	Operation	Service	Aircraft Departments			Enplaned Passengers	Freight	Enplaned Revenue Tons			
			Total Performed	Scheduled	Scheduled Completed			Express	U.S. Mail		Foreign Mail
									Priority	Non-priority	
OHIO	Domestic	S	212975	217427	212108	11576295	118519.83	2.65	44221.73	254.36	11.23
		NS	446			24447			96		
	International	AS	213421	217427	212108	11600742	118519.83	2.65	44222.69	254.36	11.23
		S	646	652	644	86285	2889.54		25.98		
	Total	NS	415			1502	343146.82				
		AS	1061	652	644	87787	346036.36		25.98		
		S	213621	218079	212752	11662580	121409.37	2.65	44247.71	254.36	11.23
		NS	861			25949	343146.82		96		
OKLAHOMA	Domestic	AS	214482	218079	212752	11688529	464556.19	2.65	44248.67	254.36	11.23
		S									
	International	S	51604	52292	51401	2973954	14267.08	7.56	8971.78	24	
		NS	109			7247					
	Total	AS	51713	52292	51401	2981201	14267.08	7.56	8971.78	24	
		S	1	1	1		1.60				
		NS	11				328.00				
		AS	12	1	1		329.60				
OREGON	Domestic	S	51605	52293	51402	2973954	14268.68	7.56	8971.78	24	
		NS	120			7247	328.00				
	International	AS	51725	52293	51402	2981201	14596.68	7.56	8971.78	24	
		S									
	Total	S	98510	101225	98176	3402346	41118.44	22.00	11093.35	60.57	01
		NS	150			9396	169.70				
		AS	98660	101225	98176	3411742	41288.14	22.00	11093.35	60.57	01
		S	849	1001	945	87632	5901.27		267.60		
PENNSYLVANIA	Domestic	S	99359	102226	99121	3489978	47019.71	22.00	11360.95	60.57	01
		NS	150			9396	169.70				
	International	AS	99509	102226	99121	3499374	47189.41	22.00	11360.95	60.57	01
		S									
	Total	S	228679	235324	227965	15110461	72305.59	11.23	68435.05	590.25	
		NS	827			47023	896.10		14.48		
		AS	229506	235324	227965	15157484	73201.69	11.23	68449.53	590.25	
		S	307	324	285	30490	498.48		95.07		
RHODE ISLAND	Domestic	NS	3			301					
		AS	310	324	285	30791	498.48		95.07		
	International	S	228986	235648	228250	15140951	72804.07	11.23	68530.12	590.25	
		NS	830			47324	896.10		14.48		
	Total	AS	229816	235648	228250	15188275	73700.17	11.23	68544.60	590.25	
		S									
	Domestic	S	13667	14137	13639	951390	1784.26	.02	3174.51	.99	
		NS	23			899					
AS		13690	14137	13639	952289	1784.26	.02	3174.51	.99		
SOUTH CAROLINA	Domestic	S	35577	37629	35348	1810895	7627.34		5607.20	.63	
		NS	19			1224					
	International	AS	35596	37629	35348	1812119	7627.34		5607.20	.63	
		S		16							
	Total	S	35577	37645	35348	1810895	7627.34		5607.20	.63	
		NS	19			1224					
SOUTH DAKOTA	Domestic	AS	35596	37645	35348	1812119	7627.34		5607.20	.63	
		S	10922	11051	10852	349952	1645.60		1720.29	2.00	
		NS	3			63					
AS		10925	11051	10852	350015	1645.60		1720.29	2.00		
TENNESSEE	Domestic	S	178631	181352	178302	8613468	601649.92		26515.29	38.21	
		NS	87			5390	53.20				
	International	AS	178718	181352	178302	8618858	601703.12		26515.29	38.21	
		S	14	13	13	955					
	Total	NS	9			765					
		AS	23	13	13	1720					
		S	178645	181365	178315	8614423	601649.92		26515.29	38.21	
		NS	96			6155	53.20				
TEXAS	Domestic	AS	178741	181365	178315	8620578	601703.12		26515.29	38.21	
		S									
	International	S	572416	581981	571753	43731286	208056.61	263.58	111844.88	480.99	
		NS	1275			117376	852.80				
	Total	AS	573691	581981	571753	43848662	208909.41	263.58	111844.88	480.99	
		S	14805	14881	14810	1499295	25588.57	22.34	1903.23	8.40	
		NS	3			369					
		AS	14808	14881	14810	1499664	25588.57	22.34	1903.23	8.40	
	Total	S	587221	596862	586563	45230581	233645.18	285.92	113748.11	489.39	
NS		1278			117745	852.80					
AS		588499	596862	586563	45348326	234497.98	285.92	113748.11	489.39		

NOTE: S = Schedule, NS = Nonschedule, and AS = All Service

**TABLE 4.7-Continued**  
**SUMMARY OF AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS,**  
**AND ENPLANED REVENUE TONS OF CARGO AND MAIL BY TYPE OF OPERATION,**  
**BY TYPE OF SERVICE, AND BY STATE AND COUNTRY**  
**12 MONTHS ENDED DECEMBER 31, 1989**

State or County	Operation	Service	Aircraft Departments			Enplaned Passengers	Enplaned Revenue Tons					
			Total Per-formed	Sched-uled	Scheduled Completed		Freight	Express	U.S. Mail		Foreign Mail	
									Priority	Non-priority		
UTAH.....	Domestic.....	S	76088	76899	75928	5214016	35316.19	.52	17291.28	3.40		
		NS	297			30400						
		AS	76385	76899	75928	5244416	35316.19	.52	17291.28	3.40		
VERMONT.....	Domestic.....	S	7081	7255	7068	356224	1500.82		1426.90	3.00		
VIRGINIA.....	Domestic.....	S	59543	62339	59462	2534501	8179.45		7145.09			
		NS	24			1229						
		AS	59567	62339	59462	2535730	8179.45		7145.09			
	International.....	S	5	29		17						
		S	59548	62368	59462	2534518	8179.45		7145.09			
		NS	24			1229						
Total.....	AS	59572	62368	59462	2535747	8179.45		7145.09				
	WASHINGTON.....	Domestic.....	S	179846	185284	179168	7748962	116391.62	4.17	31468.49	160.89	50.74
			NS	606			45008	3466.63		255.34		
AS			180452	185284	179168	7793970	120358.25	4.17	31723.83	160.89	50.74	
International.....		S	1574	1735	1665	325204	7168.78		2601.86	33.75	64.83	
		NS	9			887	292.99					
		AS	1583	1735	1665	326091	7461.77		2601.86	33.75	64.83	
Total.....		S	181420	187019	180833	8074166	124060.40	4.17	34070.35	194.64	115.57	
		NS	615			45895	3759.62		255.34			
	AS	182035	187019	180833	8120061	127820.02	4.17	34325.69	194.64	115.57		
WEST VIRGINIA.....	Domestic.....	S	11213	11962	11183	290634	972.68		289.48			
WISCONSIN.....	Domestic.....	S	62470	64481	62125	2728298	15049.64	2.27	7380.93	2021.40		
		NS	215			10009						
		AS	62685	64481	62125	2738307	15049.64	2.27	7360.93	2021.40		
WYOMING.....	Domestic.....	S	11214	11471	11161	202101	960.84		83.45	46.10		
		NS	9			261						
		AS	11223	11471	11161	202362	960.84		83.45	46.10		
TOTAL FOR 50 U. S. STATES.	Domestic.....	S	6212129	6383932	6178787	400689555	3941945.11	636.33	1370323.84	81499.80	563.24	
		NS	2012			1449975	25064.59		8328.52	78.99		
		AS	6232161	6383932	6178787	411139530	3967009.70	636.33	1378652.36	81578.79	563.24	
	International.....	S	96122	98554	96051	13821923	627145.16	92.69	69038.57	7069.34	332.34	
		NS	2672			141739	521208.54					
		AS	98794	98554	96051	13963662	1148353.70	92.69	69038.57	7069.34	332.34	
	Total.....	S	6308251	6482486	6274838	423511478	4569090.27	729.02	1439362.41	88569.14	895.58	
		NS	23304			1591714	546273.13		8328.52	78.99		
		AS	6331555	6482486	6274838	425103192	5115363.40	729.02	1447690.93	88648.13	895.58	

NOTE: S = Schedule, NS = Nonschedule, and AS = All Service.

**TABLE 4.7-Continued**  
**SUMMARY OF AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS,**  
**AND ENPLANED REVENUE TONS OF CARGO AND MAIL BY TYPE OF OPERATION,**  
**BY TYPE OF SERVICE, AND BY STATE AND COUNTRY**  
**12 MONTHS ENDED DECEMBER 31, 1989**

State or County	Operation	Service	Aircraft Departments			Enplaned Passengers	Enplaned Revenue Tons				
			Total Performed	Scheduled	Scheduled Completed		Freight	Express	U.S. Mail		Foreign Mail
									Priority	Non-priority	
OTHER U. S. AREAS											
AMERICAN SAMOA.....	International.....	S	399	405	385	27405	186.11		73.26		
PALAU ISLANDS.....	International.....	S	656	679	652	30481	435.88	1.21	27.91		.02
GUAM.....	International.....	S	5794	5773	5650	602209	18001.89	57.19	1955.75	21.30	3.51
		NS	137			23642	1709.90				
	International.....	AS	5931	5773	5650	625851	19711.79	57.19	1955.75	21.30	3.51
		S	260	260	255	420	6.26		9.29		
MARIANA ISLANDS.....	International.....	S	3821	3682	3578	230882	1593.39	.14	81.98		
MIDWAY ISLAND.....	International.....	S	1								
PUERTO RICO.....	Domestic.....	S	19614	20176	19040	2717162	46099.07		3945.95	734.49	
		NS	278			2848	8395.10				
		AS	19892	20176	19040	2720010	54494.17		3945.95	734.49	
	International.....	S	5020	5245	4995	548073	6047.95		261.58	10.19	
		NS	13			561	222.20				
		AS	5033	5245	4995	548634	6270.15		261.58	10.19	
	Total.....	S	24634	25421	24035	3265235	52147.02		4207.53	744.68	
		NS	291			3409	8617.30				
		AS	24925	25421	24035	3268644	60764.32		4207.53	744.68	
ST. THOMAS, U.S. VIRGIN ISLANDS..	Domestic.....	S	4044	4454	3982	254117	662.73		260.75	7.22	
		NS	2			80					
		AS	4046	4454	3982	254197	662.73		260.75	7.22	
	International.....	S	1939	2054	1870	113530	241.97		171.91	128.73	
		S	5983	6508	5852	367647	904.70		432.66	135.95	
	Total.....	NS	2			80					
		AS	5985	6508	5852	367727	904.70		432.66	135.95	
TOTAL FOR OTHER U. S. AREAS.	Domestic.....	S	23658	24630	23022	2971279	46761.80		4206.70	741.71	
		NS	280			2928	8395.10				
		AS	23938	24630	23022	2974207	55156.90		4206.70	741.71	
	International.....	S	17890	18098	17385	1553000	26513.45	58.54	2581.68	160.22	3.53
		NS	150			24203	1932.10				
		AS	18040	18098	17385	1577203	28445.55	58.54	2581.68	160.22	3.53
	Total.....	S	41548	42728	40407	4524279	73275.25	58.54	6788.38	901.93	3.53
		NS	430			27131	10327.20				
		AS	41978	42728	40407	4551410	83602.45	58.54	6788.38	901.93	3.53
FOREIGN COUNTRIES											
ANTIGUA & BARBUDA.....	International.....	S	1053	1125	1045	79902	378.24		41.95	1.51	
ARGENTINA.....	International.....	S	1235	1272	1228	137296	10850.06		118.98	23.68	8.91
		NS	3			784					
		AS	1238	1272	1228	138080	10850.06		118.98	23.68	8.91
ARUBA.....	International.....	S	1497	1578	1494	152783	199.97		38.62		
		NS	2			481					
		AS	1499	1578	1494	153264	199.97		38.62		
AUSTRALIA.....	International.....	S	3462	3545	3374	485402	31090.18	1.97	358.60	.31	243.04
		NS	174			5961.10					
		AS	3636	3545	3374	485402	37051.28	1.97	358.60	.31	243.04
AUSTRIA.....	International.....	S	656	663	648	33145	589.04		8.73	1.00	.22
		NS	1			100					
		AS	657	663	648	33245	589.04		8.73	1.00	.22
AZORES.....	International.....	S	1	1	1		17.40				

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**TABLE 4.7-Continued**  
**SUMMARY OF AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS,**  
**AND ENPLANED REVENUE TONS OF CARGO AND MAIL BY TYPE OF OPERATION,**  
**BY TYPE OF SERVICE, AND BY STATE AND COUNTRY**  
**12 MONTHS ENDED DECEMBER 31, 1989**

State or County	Operation	Service	Aircraft Departments			Enplaned Passen- gers	Enplaned Revenue Tons				
			Total Per- formed	Sched- uled	Scheduled Completed		Freight	Express	U.S. Mail		Foreign Mail
									Priority	Non- priority	
BAHAMAS	Domestic	S	1682	1707	1676	100089	61.81		.01		
		NS	5			503					
		AS	1687	1707	1676	100592	61.81		.01		
	International	S	5440	5672	5424	513304	259.76		.83	.40	
		NS	18			2639					
		AS	5458	5672	5424	515943	259.76		.83	.40	
	Total	S	7122	7379	7100	613393	321.57		.84	.40	
	NS	23			3142						
	AS	7145	7379	7100	616535	321.57		.84	.40		
BARBADOS	International	S	1961	2032	1960	171464	732.16		59.38		.98
		NS	1								
		AS	1962	2032	1960	171464	732.16		59.38		.98
BELGIUM	International	S	5696	5742	5668	131026	23180.18		379.63	93.22	747.75
		NS	34			625	1982.80				
		AS	5730	5742	5668	131651	25162.98		379.63	93.22	747.75
BERMUDA	Domestic	S	1				5.83				
	International	S	3356	3540	3313	420967	402.22	.03	240.73		6.84
		NS	2			547					
		AS	3358	3540	3313	421514	402.22	.03	240.73		6.84
	Total	S	3357	3540	3313	420967	408.05	.03	240.73		6.84
		NS	2			547					
		AS	3359	3540	3313	421514	408.05	.03	240.73		6.84
	International	S	307	316	306	14021	129.54		10.54	17.46	
BRAZIL	International	S	2359	2384	2337	236654	50296.09		489.48	3.65	26.00
		NS	15			4501					
		AS	2374	2384	2337	241155	50296.09		489.48	3.65	26.00
BRITISH HONDURAS	International	S	325	353	324	17250	3.91		.14		
BRIT. VIRGIN ISLANDS	Domestic	S	1	1	1		.10				
BRITISH WEST INDIES	Domestic	S	736	745	736	43031	28.09		.17		
	International	S	812	816	802	61585	881.35		2.35		2.97
	Total	S	1548	1561	1538	104616	909.44		2.52		2.97
CANADA	Domestic	S	53047	54365	53004	3120784	19014.16		5019.50	62.35	
		NS	319			19390					
		AS	53366	54365	53004	3140174	19014.16		5019.50	62.35	
	International	S	44	1	1	412	2382.05		20.21	13.63	
		NS									
		AS	53091	54366	53005	3121196	21396.21		5039.71	75.98	
	Total	S	319			19390					
	AS	53410	54366	53005	3140586	21396.21		5039.71	75.98		
CHILE	International	S	517	541	514	63275	6045.91		20.41	.60	33.59
		NS	1								
		AS	518	541	514	63275	6045.91		20.41	.60	33.59
CHINA	International	S	215	224	215	24361	1012.52		.72		.11
		NS	3			386					
		AS	218	224	215	24747	1012.52		.72		.11
COLOMBIA	International	S	1919	2018	1856	76735	20851.33		39.06	10.29	
		NS	39				1529.00				
		AS	1958	2018	1856	76735	22380.33		39.06	10.29	
COOK ISLAND	International	S	105	78	74	7057	48.13				
COSTA RICA	Domestic	S	8	498	489	74753	501.55		230.94		
		NS	9				.80				
		AS	17	498	489	74753	502.35		230.94		
	International	S	1053	1078	1045	86639	9320.06		9.17	22.76	
		NS	4			286					
		AS	1057	1078	1045	86925	9320.06		9.17	22.76	
	Total	S	1061	1576	1534	161392	9821.61		240.11	22.76	
	NS	13			286	.80					
	AS	1074	1576	1534	161678	9822.41		240.11	22.76		
CZECHOSLOVAKIA	International	S	228	237	228	4951	18.30				
DENMARK	International	S	1507	1538	1502	134171	2526.34		43.95	.09	3.41

NOTE: S = Schedule, NS = Nonschedule, and AS = All Service

**TABLE 4.7-Continued**  
**SUMMARY OF AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS,**  
**AND ENPLANED REVENUE TONS OF CARGO AND MAIL BY TYPE OF OPERATION,**  
**BY TYPE OF SERVICE, AND BY STATE AND COUNTRY**  
**12 MONTHS ENDED DECEMBER 31, 1989**

State or County	Operation	Service	Aircraft Departments			Enplaned Passengers	Enplaned Revenue Tons				
			Total Performed	Scheduled	Scheduled Completed		Freight	Express	U.S. Mail		Foreign Mail
									Priority	Non-priority	
DOMINICAN REPUBLIC.....	International.....	S	4658	4848	4619	642701	9858.20		22.23	1.80	1.43
		NS	4			709					
		AS	4662	4848	4619	643410	9858.20		22.23	1.80	1.43
ECUADOR.....	International.....	S	775	787	758	66722	3191.99		39.37	.49	
		NS	1								
		AS	776	787	758	66722	3191.99		39.37	.49	
EGYPT.....	International.....	S	161	162	160	27415	741.09		66.17		
EL SALVADOR.....	International.....	S	1193	1356	1182	56370	531.10		49.48	6.07	.84
ETHIOPIA.....	Domestic.....	S		101	89	1542					
FIJI.....	International.....	S	164	88	88		14853.52		210.21	6.46	
FINLAND.....	International.....	S	375	388	372	28553	311.48		70.66	01	17.37
FRANCE.....	International.....	S	8819	8897	8763	960111	30547.14		1257.79	545.26	433.14
		NS	3			163					
		AS	8822	8897	8763	960274	30547.14		1257.79	545.26	433.14
FRENCH POLYNESIA.....	International.....	S	308	304	302	31428	33.92		.80		
		NS	2			413					
		AS	310	304	302	31841	33.92		.80		
GERMANY.....	International.....	S	48066	49437	47655	3721234	95450.02		9767.06	4257.96	11729.39
		NS	613			75245	617.88				
		AS	48679	49437	47655	3796479	96067.90		9767.06	4257.96	11729.39
	International.....	S	513	502	496	79956	549.01		132.31	67.54	39.60
		NS	5			1197					
		AS	518	502	496	81153	549.01		132.31	67.54	39.60
GUATEMALA.....	International.....	S	2173	2248	2158	155230	6975.71		77.75	26.27	1.41
		NS	1				11.20				
		AS	2174	2248	2158	155230	6986.91		77.75	26.27	1.41
HAITI.....	International.....	S	1675	1770	1671	184361	3398.15		41.43	.32	.26
HONDURAS.....	International.....	S	344	403	338	17367	185.64	1.08	2.75		
HONG KONG.....	International.....	S	3452	3570	3437	461263	96949.32		1765.57	522.63	540.21
		NS	68				2833.93				
		AS	3520	3570	3437	461263	99783.25		1765.57	522.63	540.21
HUNGARY.....	International.....	S	340	342	335	7920	28.10		8.01		
		NS	1			305					
		AS	341	342	335	8225	28.10		8.01		
ICELAND.....	International.....	S	152	71	71		11608.40		51.92	32.85	
INDIA.....	International.....	S	368	364	364	105039	5232.79		11.34		
		NS	1				35.70				
		AS	369	364	364	105039	5268.49		11.34		
INDONESIA.....	International.....	S	299	116	114	8932	1004.57				
IRELAND.....	International.....	S	1652	1651	1618	52721	2845.77		18.30	4.21	
		NS	3			4					
		AS	1655	1651	1618	52725	2845.77		18.30	4.21	
ISRAEL.....	International.....	S	801	809	799	168861	2001.11		109.14	11.78	53.71
ITALY.....	International.....	S	2331	2371	2313	396296	16510.23		876.06	297.68	16.45
ITALY.....	International.....	S	1	1	1		1925.80				
JAMAICA.....	Domestic.....	S	228	233	228	16252	11.32		.05		
		NS	11			3978					
		AS	239	233	228	20230	11.32		.05		

NOTE: S = Schedule, NS = Nonschedule, and AS = All Service.

**TABLE 4.7-Continued**  
**SUMMARY OF AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS,**  
**AND ENPLANED REVENUE TONS OF CARGO AND MAIL BY TYPE OF OPERATION,**  
**BY TYPE OF SERVICE, AND BY STATE AND COUNTRY**  
**12 MONTHS ENDED DECEMBER 31, 1989**

State or County	Operation	Service	Aircraft Departments			Enplaned Passen- gers	Enplaned Revenue Tons				
			Total Per- formed	Sched- uled	Scheduled Completed		Freight	Express	U.S. Mail		Foreign Mail
									Priority	Non- priority	
	International.....	S	2603	2765	2591	264096	2463.02		2.42	.17	
		NS	1			111					
		AS	2604	2765	2591	264207	2463.02		2.42	.17	
	Total.....	S	2831	2998	2819	280348	2474.34		2.47	.17	
		NS	12			4089					
		AS	2843	2998	2819	284437	2474.34		2.47	.17	
JAPAN.....	International.....	S	20892	21149	20706	3584625	335556.22	2.15	11303.29	6096.01	1036.34
		NS	192			21705	4756.81				
		AS	21084	21149	20706	3606330	340313.03	2.15	11303.29	6096.01	1036.34
KENYA.....	International.....	S	151	157	150	15334	1643.20		27.31		3.01
MALAYSIA.....	Domestic.....	S	1	1	1		8.00				
		NS	2				.30				
		AS	3	1	1		8.30				
	International.....	S	114	128	114		9121.52		3.31		
	Total.....	S	115	129	115		9129.52		3.31		
		NS	2				.30				
		AS	117	129	115		9129.82		3.31		
MARSHALL ISLANDS.....	International.....	S	787	798	782	14627	157.21	.17	117.68		
MEXICO.....	Domestic.....	S	2963	2965	2938	150020	244.33		.19		
		NS	7			676					
		AS	2970	2965	2938	150696	244.33		.19		
	International.....	S	21715	21602	21451	1784152	12240.53	1.42	35.06	2.61	3.42
		NS	10			1298					
		AS	21725	21602	21451	1785450	12240.53	1.42	35.06	2.61	3.42
	Total.....	S	24678	24567	24389	1934172	12484.86	1.42	35.25	2.61	3.42
		NS	17			1974					
		AS	24695	24567	24389	1936146	12484.86	1.42	35.25	2.61	3.42
MICRONESIA.....	International.....	S	1563	1710	1691	47072	883.25	.91	92.35		
NETHERLANDS.....	International.....	S	1293	1307	1275	132930	2403.81		204.74	47.28	
		NS	4			551					
		AS	1297	1307	1275	133481	2403.81		204.74	47.28	
	International.....	S	2758	2870	2711	274590	4845.49	.01	19.90	.86	
		NS	10			664	19.90				
		AS	2768	2870	2711	275254	4865.39	.01	19.90	.86	
NEW ZEALAND.....	International.....	S	1883	1881	1845	288487	22953.87		376.80	1.57	15.03
		NS	1								
		AS	1884	1881	1845	288487	22953.87		376.80	1.57	15.03
NORWAY.....	International.....	S	812	835	809	53145	416.85		22.14		.03
PAKISTAN.....	International.....	S	155	156	154	16866	976.83		2.63		
PANAMA.....	International.....	S	1589	1652	1511	83596	6294.07		528.89	150.07	57.49
		NS	5				56.89				
		AS	1594	1652	1511	83596	6350.96		528.89	150.07	57.49
PAPUA NEW GUINEA.....	Domestic.....	S	1	1	1						
	International.....	S	96	98	96	3996	12.22		7.60		
	Total.....	S	97	99	97	3996	12.22		7.60		
PARAGUAY.....	International.....	S	265	268	263	5282	1121.72		19.97	11.63	
		NS	2				78.68				
		AS	267	268	263	5282	1200.40		19.97	11.63	
PERU.....	International.....	S	1023	1060	1009	92370	4630.41		2.77	40.93	
		NS	1				45.00				
		AS	1024	1060	1009	92370	4675.41		2.77	40.93	
PHILIPPINES.....	International.....	S	1672	1701	1656	341741	16680.29	2.62	1405.77	843.49	74.36
POLAND.....	International.....	S	519	526	516	43265	21.74		.55		.23
		NS	1			412					
		AS	520	526	516	43677	21.74		.55		.23
PORTUGAL.....	International.....	S	442	446	435	53695	1423.53		18.33	12.21	4.08
ROMANIA.....	International.....	S	92	95	90	3436	136.34		1.43		

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**TABLE 4.7-Continued**  
**SUMMARY OF AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS,**  
**AND ENPLANED REVENUE TONS OF CARGO AND MAIL BY TYPE OF OPERATION,**  
**BY TYPE OF SERVICE, AND BY STATE AND COUNTRY**  
**12 MONTHS ENDED DECEMBER 31, 1989**

State or County	Operation	Service	Aircraft Departments			Enplaned Passengers	Enplaned Revenue Tons				
			Total Per- formed	Sched- uled	Scheduled Completed		Freight	Express	U.S. Mail		Foreign Mail
									Priority	Non- priority	
SAUDI ARABIA.....	International.....	S	206	208	204	5864	7.70		39.73		
SINGAPORE.....	International.....	S	989	1018	980	143975	26880.99		132.86		6.14
SOUTH KOREA.....	International.....	S	4580	4680	4529	642220	79942.48		2786.71	3077.99	12.01
		NS	29			3904	372.10				
		AS	4609	4680	4529	646124	80314.58		2786.71	3077.99	12.01
SPAIN.....	International.....	S	1706	1712	1698	237830	3526.74		431.05	223.91	1.07
SWEDEN.....	International.....	S	1651	1693	1649	116208	2927.70		49.13	1.06	.05
SWITZERLAND.....	International.....	S	5557	5627	5524	324908	35869.52		950.18	33.33	13.50
		NS	51			5889	5.10				
		AS	5608	5627	5524	330797	35874.62		950.18	33.33	13.50
TAIWAN.....	International.....	S	3267	3220	3126	331018	128916.24		2803.52	175.85	776.53
		NS	9			435.97					
		AS	3276	3220	3126	331018	129352.21		2803.52	175.85	776.53
THAILAND.....	International.....	S	1044	1066	1041	208482	19630.12		194.67	8.26	119.82
TONGA.....	International.....	S	104	104	103	6921	145.70		10.00		
TRINIDAD & TOBAGO.....	International.....	S	1149	1197	1146	81884	1302.00		6.84	.03	.18
TURKEY.....	International.....	S	955	968	952	54226	299.41		163.15	2.25	2.77
		NS	163			21927					
		AS	1118	968	952	76153	299.41		163.15	2.25	2.77
UNITED ARAB EMIRATES.....	International.....	S	23	43	16		995.29		1.59		
UNITED KINGDOM.....	Domestic.....	S	1			140	9.42				
	International.....	S	16751	16922	16535	2386340	132914.26		7031.01	697.36	2300.12
		NS	37			1011	1624.60				
		AS	16788	16922	16535	2387351	134538.86		7031.01	697.36	2300.12
	Total.....	S	16752	16922	16535	2386480	132923.68		7031.01	697.36	2300.12
		NS	37			1011	1624.60				
		AS	16789	16922	16535	2387491	134548.28		7031.01	697.36	2300.12
	International.....	S	108	106	104	12386	533.73		.63		15.12
U.S.S.R.....	International.....	S	443	446	441	30656	123.81		.52		
VENEZUELA.....	International.....	S	1904	1963	1901	183308	7918.82		48.20	3.13	21.02
		NS	76			13	1497.50				
		AS	1980	1963	1901	183321	9416.32		48.20	3.13	21.02
WESTERN SAMOA.....	International.....	S	93	90	84	5480	99.84		.08		
YUGOSLAVIA.....	International.....	S	958	964	927	30249	312.59		.06		
		NS	26			1296					
		AS	984	964	927	31545	312.59		.06		
TOTAL FOR FOREIGN COUNTRIES.....	Domestic.....	S	58669	60617	59163	3506611	19884.61		5250.86	62.35	
		NS	353			24547	1.10				
		AS	59022	60617	59163	3531158	19885.71		5250.86	62.35	
	International.....	S	214280	218470	211788	21930140	1332276.86	10.36	45304.70	17399.93	18369.95
		NS	1617			147166	21864.16				
		AS	215897	218470	211788	22077306	1354141.02	10.36	45304.70	17399.93	18369.95
	Total.....	S	272949	279087	270951	25436751	1352161.47	10.36	50555.56	17462.28	18369.95
		NS	1970			171713	21865.26				
		AS	274919	279087	270951	25608464	1374026.73	10.36	50555.56	17462.28	18369.95
	OVER-ALL TOTAL FOR ALL STATES, AREAS, AND COUNTRIES.....	Domestic.....	S	6294456	6469179	6260972	416167445	4008591.52	636.33	1379781.40	82303.86
NS			21265			1477450	33460.79		8328.52	78.99	
AS			6315721	6469179	6260972	417644895	4042052.31	636.33	1388109.92	82382.85	563.24
International.....		S	328292	335122	325224	37305063	1985935.47	161.59	116924.95	24629.49	18705.82
		NS	4439			313108	545004.80				
		AS	332731	335122	325224	37618171	2530940.27	161.59	116924.95	24629.49	18705.82
Total.....		S	6622748	6804301	6586196	453472508	5994526.99	797.92	1496706.35	106933.35	19269.06
		NS	25704			1790558	578465.59		8328.52	78.99	
		AS	6648452	6804301	6586196	455263066	6572992.58	797.92	1505034.87	107012.34	19269.06

**TABLE 4.8**  
**AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS,**  
**AND ENPLANED REVENUE TONS OF CARGO AND MAIL IN TOTAL OPERATIONS,**  
**ALL SERVICES AT LARGE AIR TRAFFIC HUBS**  
**12 MONTHS ENDED DECEMBER 31, 1989**

Community (Airport Name)	% of Enplane-ments	Aircraft Departures			Enplaned Passen- gers	Enplaned Revenue Tons				
		Total Performed	Scheduled	Scheduled Completed		Freight	Express	U.S. Mail		Foreign Mail
								Priority	Nonpriority	
<b>ATLANTA, GEORGIA</b> (WILLIAM B HARTSFIELD INT'L) ..	4.75	235079	246376	234291	20397697	127450.25	2.15	92702.28	312.80	
<b>BALTIMORE, MARYLAND</b> (BALTO/WASH INTL) .....	1.03	74238	76055	73266	4446153	17349.32	.03	19708.70	127.12	
<b>BOSTON, MASSACHUSETTS</b> (LOGAN INTERNATIONAL) .....	2.25	108748	110260	106516	9661258	110904.72	.98	28149.57	2179.14	17.49
<b>CHARLOTTE, NORTH CAROLINA</b> (DOUGLAS MUNI) .....	1.61	113805	117476	113590	6903482	34751.14		16398.82	.10	
<b>CHICAGO, ILLINOIS</b> (MIDWAY) .....	0.79	62238	64170	62150	3409726	166.81		30.07		
(O'HARE INTERNATIONAL) .....	5.97	317129	327493	316191	25664266	307667.92	12.44	135893.40	635.12	2.74
<b>COMMUNITY TOTAL</b>	6.77	779367	391663	378341	29073992	307834.73	12.44	135923.47	635.12	2.74
<b>DALLAS-FORT WORTH, TEXAS</b> (LOVE FIELD).....	0.65	37562	38179	37511	2773836	4.70				
(DALLAS-FT.WORTH REGIONAL).....	5.27	254324	257813	253364	22623065	140066.59	5.21	76457.08	473.28	
(ADDISON).....	0.00	2	2	2		.90				
<b>COMMUNITY TOTAL</b>	5.91	291888	295994	290877	25396901	140072.19	5.21	76457.08	473.28	
<b>DENVER, COLORADO</b> (JEFFCO) .....	0.00	1	1	1		.60				
(STAPLETON INTERNATIONAL) ..	2.87	163366	165596	162587	12320246	70422.59	5.50	42186.99	307.07	
(ARAPAHOE COUNTY).....	0.00	2	2	2		1.10				
<b>COMMUNITY TOTAL</b>	2.87	163369	165599	162590	12320246	70424.29	5.50	42186.99	307.07	
<b>DETROIT, MICHIGAN</b> (DETROIT CITY) .....	0.08	5794	5956	5794	344867					
(WAYNE COUNTY).....	2.27	133029	136460	132281	9739265	39787.56	4.60	34129.95	32.45	.46
(WILLOW RUN).....	0.00	4105	4480	4017		10615.74				
<b>COMMUNITY TOTAL</b>	2.35	142928	146896	142092	10084132	50403.30	4.60	34129.95	32.45	.46
<b>HONOLULU, OAHU, HAWAII</b> (HICKAM AFB) .....	0.00	25	3	3	1713	946.40				
(HONOLULU INTERNATIONAL).....	2.08	88577	95166	84895	8943521	186002.81	149.43	29659.44	787.63	16.96
<b>COMMUNITY TOTAL</b>	2.08	88602	95169	84898	8945234	186949.21	149.43	29659.44	787.63	16.96
<b>HOUSTON, TEXAS</b> (HOUSTON INTERCONTINENTAL).....	1.64	100653	102088	100183	7030001	57331.79	260.19	22764.42	3.40	
(WILLIAM P HOBBY).....	0.91	58512	59968	58380	3927329	2431.11		270.13	.51	
(ELLINGTON AFB) .....	0.00	1								
<b>COMMUNITY TOTAL</b>	2.55	159166	162056	158563	10957330	59762.90	260.19	23034.55	3.91	
<b>KANSAS CITY, MISSOURI</b> (INTERNATIONAL) .....	1.01	66859	67852	66215	4358991	14769.88	96.33	15759.41	22.05	
(KANSAS CITY MUNI) .....	0.00	2	1	1						

**TABLE 4.8—Continued**  
**AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS,**  
**AND ENPLANED REVENUE TONS OF CARGO AND MAIL IN TOTAL OPERATIONS,**  
**ALL SERVICES AT LARGE AIR TRAFFIC HUBS**  
**12 MONTHS ENDED DECEMBER 31, 1989**

Community (Airport Name)	% of Enplane-ments	Aircraft Departures			Enplaned Passen- gers	Enplaned Revenue Tons				
		Total Performed	Scheduled	Scheduled Completed		Freight	Express	U.S. Mail		Foreign Mail
								Priority	Nonpriority	
COMMUNITY TOTAL	1.01	66861	67853	66216	4356991	14769.88	96.33	15759.41	22.05	
LAS VEGAS, NEVADA (MC CARRAN INTL)..... (NELLIS AFB).....	1.64 0.00	85772 1	85719	84757	7026900	11768.59	.57	9776.88	2.95	
COMMUNITY TOTAL	1.64	85773	85719	84757	7026900	11768.59	.57	9776.88	2.95	
LOS ANGELES/BURBNK/ LNG.BCH,CAL (HOLLYWOOD-BURBANK)..... (LONG BEACH)..... (LOS ANGELES INTERNATIONAL)..... (ORANGE COUNTY).....	0.31 0.15 4.33 0.51	25833 14445 202515 34960	26481 14395 206035 36087	25796 13967 200528 34934	1319568 661766 18583292 2173502	3110.49 2453.98 372666.23 1263.34	.12  16.23	2246.72 782.04 63253.07 857.80	.45  605.86 452.00	   31.86
COMMUNITY TOTAL	5.29	277753	282998	275225	22138128	379494.04	16.35	67139.63	1058.31	31.86
MIAMI/FT. LAUDERDALE, FLORIDA (MIAMI INTERNATIONAL)..... (FT. LAUDERDALE- HOLLYWOOD INTL).....	2.00 0.85	92314 41940	94366 42683	90045 41497	8591936 3645786	208916.43 78305.33	7.66 .18	22764.71 7895.67	550.42 10.08	13.75  
COMMUNITY TOTAL	2.85	134254	137049	131542	12237722	287221.76	7.84	30660.38	560.50	13.75
MINNEAPOLIS/ST. PAUL,MINNESOTA (MINNEAPOLIS-ST PAUL INTL).....	1.97	112833	115419	112282	8460115	65268.54	3.44	41268.03	37.09	40.50
NEWARK, NEW JERSEY (NEWARK).....	2.29	129668	132290	128012	9822491	138005.48	16.07	31961.50	1547.58	1.14
NEW YORK, NEW YORK (JOHN F KENNEDY INTL)..... (LA GUARDIA)..... (WORLD TRADE CENTER).....	2.35 2.52 0.00	76327 124169 70	78113 125965 70	75743 120778 70	10081490 10839833	227728.47 22150.19 2.40	 8.93	62292.71 36792.98	6285.31 6593.55	506.20  
COMMUNITY TOTAL	4.87	200566	204148	196591	20921323	249881.06	8.93	99085.69	12878.86	506.20
ORLANDO, FLORIDA (ORLANDO INTERNATIONAL).....	1.72	85403	86278	84034	7373449	29517.13	6.36	11553.64	9.23	.13
PHILADELPHIA,PA/CAMDEN,NJ (INTERNATIONAL)..... (NORTH PHILADELPHIA).....	1.45 0.00	82874 1	85627 1	82241 1	6247489	44992.77	11.23	41883.77	220.73	
COMMUNITY TOTAL	1.45	82875	85628	82242	6247489	44992.77	11.23	41883.77	220.73	
PHOENIX, ARIZONA (PHOENIX SKY HARBOR INTL).....	2.37	141112	141714	140209	10166095	42697.48	.11	18153.59		
PITTSBURGH,PA/WHEELING W VA (GREATER PITTSBURGH).....	1.85	121174	123397	120403	7940962	19008.51		25361.85	357.42	
ST. LOUIS, MISSOURI (LAMBERT-ST LOUIS MUNI).....	2.19	138613	141356	137926	9396335	46836.30	4.70	47611.63	71.24	
SALT LAKE CITY, UTAH (SALT LAKE CITY INTL).....	1.22	76061	76583	75613	5244238	35239.79	.52	17291.28	3.40	

**TABLE 4.8—Continued**  
**AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS,**  
**AND ENPLANED REVENUE TONS OF CARGO AND MAIL IN TOTAL OPERATIONS,**  
**ALL SERVICES AT LARGE AIR TRAFFIC HUBS**  
**12 MONTHS ENDED DECEMBER 31, 1989**

Community (Airport Name)	% of Enplane-ments	Aircraft Departures			Enplaned Passen-gers	Enplaned Revenue Tons				
		Total Performed	Scheduled	Scheduled Completed		Freight	Express	U.S. Mail		Foreign Mail
								Priority	Nonpriority	
<b>SAN DIEGO, CALIFORNIA</b> (SAN DIEGO INTNL-LINDBERGH FLD) .....	1.24	70732	72014	70556	5317177	17678.49	.03	7874.47	1.92	.31
<b>SAN FRANCISCO/OAKLAND, CAL.</b> (BUCHANAN FIELD) .....	0.01	1264	1350	1262	56477	23.64				
(OAKLAND METROPOLITAN INTL) .....	0.47	37589	38248	37531	2030847	73182.93	.04	3965.06	19.00	
(SAN FRANCISCO INTL) .....	3.10	167569	172374	166742	13326085	192576.37	2.26	49812.17	2801.78	14.80
<b>COMMUNITY TOTAL</b>	3.59	206422	211972	205535	15413409	265782.94	2.30	53777.23	2820.78	14.80
<b>SEATTLE/TACOMA, WASHINGTON</b> (BOEING FIELD INTL.) .....	0.00	1225	1211	1209	1564	9990.31		4.11	32.00	
(SEATTLE-TACOMA INTERNATIONAL) .....	1.64	115467	118152	114454	7059777	105289.63	4.17	31688.67	162.64	115.57
(MCCHORD AFB) .....	0.00	59	10	10		3119.70				
<b>COMMUNITY TOTAL</b>	1.64	116751	119373	115673	7061341	118399.64	4.17	31692.78	194.64	115.57
<b>TAMPA&amp;ST.PTSBG/ CLWTR&amp;KLND,FLA</b> (TAMPA INTERNATIONAL) .....	1.03	59102	60814	58670	4409261	20562.38	.52	15919.60	.02	
(ST. PETERSBURG/CLWTP INTL) .....	0.00	344	365	340	20351	4.03		1.69		
<b>COMMUNITY TOTAL</b>	1.03	59446	61179	59010	4429612	20566.41	.52	15921.29	.02	
<b>WASHINGTON, DIST. OF COL.</b> (DULLES INTERNATIONAL) .....	1.06	76500	79039	76126	4543530	55670.37	.20	24848.40	1246.79	
(WASHINGTON NATIONAL) .....	1.60	91951	94280	90308	6895563	7958.55	6.89	29267.38	4559.52	.40
<b>COMMUNITY TOTAL</b>	2.66	168451	173319	166434	11439093	63628.92	7.09	54115.78	5806.31	.40
<b>OVER-ALL TOTAL, LARGE HUBS</b> .....	73.03	4031938	4125833	3997284	313779281	2956659.78	627.09	1119239.68	30451.65	762.31

**TABLE 4.9**  
**AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS,**  
**AND ENPLANED REVENUE TONS OF CARGO AND MAIL IN TOTAL OPERATIONS,**  
**ALL SERVICES AT MEDIUM AIR TRAFFIC HUBS**  
**12 MONTHS ENDED DECEMBER 31, 1989**

Community (Airport Name)	% of Enplanements	Aircraft Departures			Enplaned Passengers	Enplaned Revenue Tons				
		Total Performed	Scheduled	Scheduled Completed		Freight	Express	U.S. Mail		Foreign Mail
								Priority	Nonpriority	
<b>ALBUQUERQUE, NEW MEXICO</b> (ALBUQUERQUE SUNPRT/ KIRTLND AFB) .....	0.54	33800	34031	33698	2336577	4428.31	.02	4814.09	1.62	
<b>ANCHORAGE, ALASKA</b> (ANCHORAGE INTERNATIONAL) (ELMENDORF AFB) .....	0.27 0.00	32805 428	32566 185	30859 185	1159457 8570	560924.36 1270.27		18342.31 .34	46138.13 .15	121.72
<b>COMMUNITY TOTAL</b>	0.27	33233	32751	31044	1168027	562194.63		18342.65	46138.28	121.72
<b>AUSTIN, TEXAS</b> (ROBERT MUELLER MUNI) .....	0.47	30879	31264	30789	2022269	9733.12		3618.50	12.14	
<b>BUFFALO&amp;NIAGARA FALLS,NEW YORK</b> (GREATER BUFFALO INTERNATIONAL) .....	0.38	30186	30922	29793	1628990	7049.04	.08	4052.85	.03	
<b>CINCINNATI, OHIO</b> (GREATER CINCINNATI) .....	0.88	61817	62545	61597	3770623	15634.50	.04	15498.17	68.27	11.23
<b>CLEVELAND, OHIO</b> (HOPKINS INTERNATIONAL) .....	0.87	70936	72084	70387	3722208	16430.72	2.25	10736.29	.08	
<b>COLUMBUS, OHIO</b> (PORT COLUMBUS INTERNATIONAL) .....	0.39 0.00	28268 4017	28825 4402	28090 3913	1662389 1662389	2185.58 71412.95	.36	9845.18 1197.19	.43 185.58	
<b>COMMUNITY TOTAL</b>	0.39	32285	33227	32003	1662389	73598.53	.36	11042.37	186.01	
<b>DAYTON, OHIO</b> (JAMES M COX/DAYTON INTL) .....	0.48	38227	38884	37747	2083123	358597.01		6051.70		
<b>EL PASO, TEXAS</b> (EL PASO INTERNATIONAL) .....	0.39	26283	26410	26233	1672402	4283.66		1233.77		
<b>FORT MYERS, FLORIDA</b> (PAGE FIELD) .....	0.00	421	421	421		220.10				
(SOUTHWEST) .....	0.36	18814	19324	18721	1525884	1173.66	.60	1994.65		
<b>COMMUNITY TOTAL</b>	0.36	19235	19745	19142	1525884	1393.76	.60	1994.65		
<b>HARTFD,CON/ SPGFLD&amp;WESTFLD,MASS</b> (BRADLEY INTL) .....	0.53	30801	31532	30568	2269982	7614.03	.36	15483.11		
<b>INDIANAPOLIS, INDIANA</b> (INDIANAPOLIS INTERNATIONAL) .....	0.59	48012	47716	46683	2522944	59503.30	1.04	10302.90	62.00	
<b>JACKSONVILLE, FLORIDA</b> (JACKSONVILLE INTERNATIONAL) .....	0.29	24171	24981	24032	1249258	5971.43		5203.44	.06	
<b>KAHULUI, MAUI, HAWAII</b> (KAHULUI) .....	0.50	29546	32458	28173	2132737	9194.15		1512.05	145.82	



**TABLE 4.9—Continued**  
**AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS,**  
**AND ENPLANED REVENUE TONS OF CARGO AND MAIL IN TOTAL OPERATIONS,**  
**ALL SERVICES AT MEDIUM AIR TRAFFIC HUBS**  
**12 MONTHS ENDED DECEMBER 31, 1989**

Community (Airport Name)	% of Enplanements	Aircraft Departures			Enplaned Passengers	Freight	Express	Enplaned Revenue Tons		Foreign Mail
		Total Performed	Scheduled	Scheduled Completed				Priority	Nonpriority	
<b>LIHUE, KAUAI, HAWAII</b> (LIHUE).....	0.31	17889	19006	17242	1340587	1627.05		746.60	2.37	
<b>MEMPHIS, TENNESSEE</b> (MEMPHIS INTERNATIONAL).....	0.93	97431	98635	97263	3989814	588577.07		15723.62	36.31	
<b>MILWAUKEE, WISCONSIN</b> (GENERAL MITCHELL FIELD).....	0.44	35950	36904	35607	1871914	9985.37	2.27	6518.26	1871.25	
<b>NASHVILLE, TENNESSEE</b> (METROPOLITAN).....	0.87	61657	62663	61528	3746367	6987.02		8214.54	1.90	
<b>NEW ORLEANS, LOUISIANA</b> (INTERNATIONAL/MOISANT FIELD).....	0.74	44250	44887	43896	3170967	15508.38		6944.32	13.25	
<b>NORFOLK/VA BCH/PTSMH/CHESPEAKE,VA</b> (NORFOLK REGIONAL).....	0.30	24773	25647	24624	1297895	4324.61		2691.69		
<b>OKLAHOMA CITY, OKLAHOMA</b> (WILL ROGERS WORLD).....	0.36	26113	26355	25916	1540265	6320.58	5.00	4173.46	23	
(TINKER AFB).....	0.00	12	1	1		329.60				
<b>COMMUNITY TOTAL</b>	0.36	26125	26356	25917	1540265	6650.18	5.00	4173.46	23	
<b>ONTARIO/SAN BERNARD/RIVERSE,CA</b> (ONTARIO INTERNATIONAL).....	0.61	40707	41191	40487	2608588	9974.73	.44	9550.77	.05	
(RIVERSIDE MUNI).....	0.00	1	1	1		.30				
<b>COMMUNITY TOTAL</b>	0.61	40708	41192	40488	2608588	9975.03	.44	9550.77	.05	
<b>PORTLAND, OREGON</b> (PORTLAND INTERNATIONAL).....	0.71	71828	73454	71468	3054925	45364.13	22.00	10002.22	1.57	.01
<b>RALEIGH/DURHAM, NORTH CAROLINA</b> (RALEIGH-DURHAM).....	0.96	63374	65691	63221	4116520	15384.51		8343.21	3.39	
<b>RENO, NEVADA</b> (RENO INTL).....	0.32	21156	21489	21094	1359684	3155.95		1515.15		
<b>ROCHESTER, NEW YORK</b> (ROCHESTER-MONROE COUNTY).....	0.27	24773	25379	24601	1149438	10390.95	.01	3216.60	1.90	
<b>SACRAMENTO, CALIFORNIA</b> (SACRAMENTO METROPOLITAN).....	0.42	38568	40185	38455	1800078	4923.82		9352.38		
<b>SAN ANTONIO, TEXAS</b> (SAN ANTONIO INTERNATIONAL).....	0.58	36415	36811	36311	2493393	8780.39	12.50	7057.41		
<b>SAN JOSE, CALIFORNIA</b> (SAN JOSE MUNI).....	0.72	51421	52607	51297	3093643	22124.81	16.02	3490.75	10.46	

**TABLE 4.9—Continued**  
**AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS,**  
**AND ENPLANED REVENUE TONS OF CARGO AND MAIL IN TOTAL OPERATIONS,**  
**ALL SERVICES AT MEDIUM AIR TRAFFIC HUBS**  
**12 MONTHS ENDED DECEMBER 31, 1989**

Community (Airport Name)	% of Enplane- ments	Aircraft Departures			Enplaned Passen- gers	Freight	Express	Enplaned Revenue Tons		Foreign Mail
		Total Performed	Scheduled	Scheduled Completed				U.S. Mail		
								Priority	Nonpriority	
<b>SAN JUAN, PUERTO RICO</b> (LUIS MUNOZ MARIN INTL).....	0.76	24419	24915	23529	3268644	58114.62		4207.53	744.68	
<b>SYRACUSE, NEW YORK</b> (CLARENCE E HANCOCK).....	0.30	33281	34245	33084	1271956	10582.08	.23	4086.59		
<b>TUCSON, ARIZONA</b> (TUCSON INTL).....	0.31	20781	20985	20711	1310931	3900.70	.14	2745.74	.10	
<b>TULSA, OKLAHOMA</b> (TULSA INTL).....	0.34	25600	25937	25485	1440936	7946.50	2.56	4798.32	.01	
<b>WEST PALM BEACH/PALM BEACH, FLA</b> (PALM BEACH INTERNATIONAL).....	0.56	27856	28579	27682	2403585	2617.63	.95	3845.37		
<b>OVER-ALL TOTAL, MEDIUM HUBS</b> .....	17.71	1297666	1324117	1285392	76097543	1972546.99	66.87	227111.10	49301.78	132.96

**TABLE 4.10**  
**AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS,**  
**AND ENPLANED REVENUE TONS OF CARGO AND MAIL IN TOTAL OPERATIONS,**  
**ALL SERVICES AT SMALL AIR TRAFFIC HUBS**  
**12 MONTHS ENDED DECEMBER 31, 1989**

Community (Airport Name)	% of Enplane-ments	Aircraft Departures			Enplaned Passen- gers	Enplaned Revenue Tons				
		Total Performed	Scheduled	Scheduled Completed		Freight	Express	U.S. Mail		Foreign Mail
								Priority	Nonpriority	
ALBANY, NEW YORK (ALBANY COUNTY)	0.20	14313	14747	14262	838447	1661.35		2819.46	26	
ALLENTOWN/BETHLEHEM/ EASTON, PA (ALLENTOWN-BETHLEHEM- EASTON)	0.07	6265	6518	6223	296246	1890.84		39.57	10	
AMARILLO/BORGER, TEXAS (AMARILLO AIR TERMINAL)	0.10	6544	6601	6530	441677	212.18		608.83		
BATON ROUGE, LOUISIANA (RYAN)	0.10	9196	9284	9151	427295	624.00	.17	1007.27	15	
BILLINGS, MONTANA (LOGAN FIELD)	0.05	7240	7006	6855	218878	384.07	.11	1566.71		
BIRMINGHAM, ALABAMA (BIRMINGHAM MUNI)	0.23	20075	20608	19976	989614	6440.92	1.00	4362.19	1.00	
BOISE, IDAHO (BOISE AIR TERMINAL/GOWEN FLD)	0.12	17533	17895	17446	534499	2739.06		1804.11		
BROWNSVILLE/HRLGN/SAN BNTG, TEX (HARLINGEN INDUSTRIAL AIRPARK) (SOUTH PADRE ISLAND INTL)	0.12 0.00	7251 8	7354 8	7244 8	534945	2733.65 10.70	.67	5.54		
COMMUNITY TOTAL	0.12	7259	7362	7252	534945	2744.35	.67	5.54		
BURLINGTON, VERMONT (BURLINGTON INTERNATIONAL)	0.08	7081	7255	7068	356224	1500.82		1426.90	3.00	
CEDAR RAPIDS/IOWA CITY, IOWA (CEDAR RAPIDS MUNI)	0.07	8394	8538	8309	300334	6561.95		439.45		
CHARLESTON, SOUTH CAROLINA (CHARLESTON AFB/MUNI)	0.14	11433	12345	11378	596890	1396.46		1056.75		
CHARLOTTE AMALIE, ST. THOMAS, VI (HARRY S. TRUMAN)	0.06	2897	3146	2833	244979	371.48		270.15	133.43	
CHATTANOOGA, TENNESSEE (LOVELL FIELD)	0.06	5158	5268	5117	253807	568.95		306.09		
COLORADO SPRINGS, COLORADO (PETERSON FIELD)	0.14	12445	12657	12371	599669	583.79		466.61		
COLUMBIA, SOUTH CAROLINA (COLUMBIA METROPOLITAN)	0.11	10545	10932	10457	487069	5538.19		2217.17	13	

**TABLE 4.10—Continued**  
**AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS,**  
**AND ENPLANED REVENUE TONS OF CARGO AND MAIL IN TOTAL OPERATIONS,**  
**ALL SERVICES AT SMALL AIR TRAFFIC HUBS**  
**12 MONTHS ENDED DECEMBER 31, 1989**

Community (Airport Name)	% of Enplane-ments	Aircraft Departures			Enplaned Passen-gers	Freight	Express	Enplaned Revenue Tons		Foreign Mail
		Total Performed	Scheduled	Scheduled Completed				U.S. Mail		
								Priority	Nonpriority	
<b>CORPUS CHRISTI, TEXAS</b> (CORPUS CHRISTI INTERNATIONAL)	0.10	6507	6647	6496	408374	217.61	.44	477.90		
<b>DAYTONA BEACH, FLORIDA</b> (DAYTONA BEACH REGIONAL)	0.10	6984	7263	6926	412317	396.46	.02	34.80	35	
<b>DES MOINES, IOWA</b> (DES MOINES MUNI)	0.16	14110	14368	14037	669184	908.74		8845.80		
<b>EUGENE, OREGON</b> (MAHLON SWEET FIELD)	0.06	9733	10134	9723	240151	733.40		691.58		
<b>FAIRBANKS, ALASKA</b> (EIELSON AFB)	0.00	1								
(FAIRBANKS INTERNATIONAL)	0.05	6318	6672	6230	224585	4520.51		1585.27		
(FORT WAINWRIGHT)	0.00	2	1	1	202					
<b>COMMUNITY TOTAL</b>	0.05	6321	6673	6231	224787	4520.51		1586.27	6065.35	
<b>FORT WAYNE, INDIANA</b> (MUNICIPAL/BAER FIELD)	0.06	7937	8252	7894	272891	1086.40		534.01		
<b>FRESNO, CALIFORNIA</b> (FRESNO AIR TERMINAL)	0.08	19807	20566	19721	357619	872.53		864.09		
<b>GRAND RAPIDS, MICHIGAN</b> (KENT COUNTY)	0.15	12228	12563	12161	649089	3649.68		1738.46	54.00	
<b>GREENSBORO/HIGH PT/ WINSTN, N.C.</b> (GREENSBORO-HIGH PT- WINSTN REG.)	0.21	21481	22223	21375	894404	9880.70		4084.89	20	
<b>GREENVILLE&amp;SPARTANBURG, S.C.</b> (GREENVILLE-SPARTANBURG)	0.11	9183	9749	9085	493426	504.21		2325.85	50	
<b>GUAM, GUAM</b> (AGANA FIELD)	0.15	5893	5767	5644	624228	18001.89	57.19	1955.75	21.30	3.51
(ANDERSON AFB)	0.00	38	6	6	1623	1709.90				
<b>COMMUNITY TOTAL</b>	0.15	5931	5773	5650	625851	19711.79	57.19	1955.75	21.30	3.51
<b>HARRISBURG/YORK, PA.</b> (HARRISBURG INTERNATIONAL)	0.10	9244	9387	9172	443954	5336.02		1188.83		
<b>HILO, HAWAII, HAWAII</b> (GENERAL LYMAN FIELD)	0.14	9953	9745	9333	611259	15263.87		1147.37		
<b>HUNTSVILLE, ALABAMA</b> (MADISON COUNTY)	0.08	8044	8376	8003	357658	349.36		461.05		
<b>INDIO/PALM SPRINGS, CALIFORNIA</b> (PALM SPRINGS MUNI)	0.08	7561	7694	7535	326599	158.67		26.87		

**TABLE 4.10—Continued**  
**AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS,**  
**AND ENPLANED REVENUE TONS OF CARGO AND MAIL IN TOTAL OPERATIONS,**  
**ALL SERVICES AT SMALL AIR TRAFFIC HUBS**  
**12 MONTHS ENDED DECEMBER 31, 1989**

Community (Airport Name)	% of Enplane-ments	Aircraft Departures			Enplaned Passen-gers	Enplaned Revenue Tons				
		Total Performed	Scheduled	Scheduled Completed		Freight	Express	U.S. Mail		Foreign Mail
ISLIP, LONG ISLAND, NEW YORK (LONG ISLAND-MACARTHUR)	0.10	7073	7743	7066	426522	212.58		1054.77		
JACKSON-VICKSBURG, MISS. (ALLEN C THOMPSON FIELD)	0.09	9124	9237	9090	403787	381.49		1924.52		
KAILUA-KONA, HAWAII, HAWAII (KE-AHOLE)	0.23	14497	14758	13718	982227	6549.91		800.60		
KNOXVILLE, TENNESSEE (MC GHEE TYSON)	0.11	10732	10935	10659	481896	5353.76		1587.66		
LEXINGTON/FRANKFORT, KENTUCKY (BLUE GRASS)	0.08	10085	10297	10054	334073	402.50		1454.78		
LITTLE ROCK, ARKANSAS (ADAMS FIELD)	0.22	15372	15530	15297	947323	715.37		3110.76		
LOUISVILLE, KENTUCKY (STANDIFORD FIELD)	0.21	21545	21922	21435	910288	6454.69		5688.61		
LUBBOCK, TEXAS (LUBBOCK REGIONAL)	0.15	11249	11321	11228	627500	6502.06		509.80	01	
MADISON, WISCONSIN (TRUAX FIELD)	0.09	7221	7235	7082	384201	2492.52		680.68	150.15	
MANCHESTER/ CONCORD, N. HAMPSHIRE (MUNICIPAL)	0.05	5153	5220	5143	228874	6743.06		884.44		
MELBOURNE, FLORIDA (CAPE KENNEDY REGIONAL)	0.07	5349	5667	5338	288087	161.35		4.39	30	
MIDLAND/ODESSA, TEXAS (MIDLAND REGIONAL)	0.14	9040	9098	9026	596702	613.55		165.67	05	
MOBILE, AL/PASCAGOULA, MISS (BATES FIELD)	0.08	8191	8459	8167	360134	4600.36		293.41		
MOLINE, ILLINOIS (QUAD-CITY)	0.05	7345	7526	7285	236059	199.61		266.08		
MYRTLE BEACH, SOUTH CAROLINA (GRAND STRAND) (MYRTLE BEACH AFB)	0.00 0.05	2 4431	2 4616	2 4425	234734	40 187.08		7.43		
COMMUNITY TOTAL	0.05	4433	4618	4427	234734	187.48		7.43		
OMAHA, NEBRASKA (EPPLEY AIRFIELD)	0.23	20788	20897	20506	1006752	5021.01	1.57	11854.89	2.09	
PENSACOLA, FLORIDA (PENSACOLA REGIONAL)	0.08	7079	7410	7050	361181	440.99		1128.25		

**TABLE 4.10—Continued**  
**AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS,**  
**AND ENPLANED REVENUE TONS OF CARGO AND MAIL IN TOTAL OPERATIONS,**  
**ALL SERVICES AT SMALL AIR TRAFFIC HUBS**  
**12 MONTHS ENDED DECEMBER 31, 1989**

Community (Airport Name)	% of Enplane-ments	Aircraft Departures			Enplaned Passen- gers	Enplaned Revenue Tons				
		Total Performed	Scheduled	Scheduled Completed		Freight	Express	U.S. Mail		Foreign Mail
								Priority	Nonpriority	
<b>PORTLAND, MAINE</b> (PORTLAND INTERNATIONAL JETPORT)	0.10	6993	7133	6972	432704	2526.04		1199.75		
<b>PROVIDENCE, RHODE ISLAND</b> (THEODORE FRANCIS GREEN STATE)	0.22	13690	14137	13639	952289	1784.26	.02	3174.51	.99	
<b>RICHMOND, VIRGINIA</b> (RICHARD E BYRD FLYING FIELD)	0.19	18607	19150	18485	826955	3657.60		3878.61		
<b>ROANOKE, VIRGINIA</b> (ROANOKE MUNI)	0.05	6552	6886	6535	222349	117.98		570.81		
<b>SAGINAW/BAY CITY/ MIDLAND,M.CH.</b> (TRI CITY)	0.06	4825	4891	4788	246982	228.23		174.46		
<b>SAIPAN, MARIANA ISLANDS</b> (SAIPAN INTERNATIONAL)	0.05	2959	2902	2838	219953	1527.08	.14	80.93		
<b>SANTA BARBARA CALIFORNIA</b> (SANTA BARBARA)	0.06	9251	9491	9245	237352	855.63		1.87		
(SANTA MARIA PUBLIC)	0.00	1626	1677	1590	5435	228.50		7.00	5.00	
<b>COMMUNITY TOTAL</b>	0.06	10877	11168	10835	242787	1084.13		8.87	5.00	
<b>SARASOTA/BRADENTON, FLORIDA</b> (SARASOTA-BRADENTON)	0.18	12122	12543	12084	794430	558.58	.02	10.86	.05	
<b>SAVANNAH, GEORGIA</b> (SAVANNAH MUNI)	0.12	9514	10061	9482	499028	1172.82		411.66	.16	
<b>SHREVEPORT, LOUISIANA</b> (SHREVEPORT REGIONAL)	0.07	8375	8497	8345	286166	5933.42		1234.24		
<b>SIOUX FALLS, SOUTH DAKOTA</b> (JOE FOSS FIELD)	0.05	5899	5964	5849	220496	998.94		1434.19		
<b>SOUTH BEND, INDIANA</b> (MICHIANA REGIONAL)	0.06	6944	7359	6913	244077	3034.21		23.70		
<b>SPOKANE, WASHINGTON</b> (SPOKANE INTERNATIONAL)	0.17	24828	25463	24780	723637	7095.29		2194.30		
(FAIRCHILD AFB)	0.00	1	21	21	3167	76.35				
(FELTS FIELD)	0.00	1	1	1		20				
<b>COMMUNITY TOTAL</b>	0.17	24830	25485	24802	726804	7171.84		2194.30		
<b>TALLAHASSEE, FLORIDA</b> (TALLAHASSEE MUNI)	0.09	8607	8953	8535	371569	1376.83		777.67		

**TABLE 4.10—Continued**  
**AIRCRAFT DEPARTURES, ENPLANED REVENUE PASSENGERS,**  
**AND ENPLANED REVENUE TONS OF CARGO AND MAIL IN TOTAL OPERATIONS,**  
**ALL SERVICES AT SMALL AIR TRAFFIC HUBS**  
**12 MONTHS ENDED DECEMBER 31, 1989**

Community (Airport Name)	% of Enplane- ments	Aircraft Departures			Enplaned Passen- gers	Enplaned Revenue Tons				
		Total Performed	Scheduled	Scheduled Completed		Freight	Express	U.S. Mail		Foreign Mail
								Priority	Nonpriority	
<b>TOLEDO, OHIO</b> (TOLEDO EXPRESS) .....	0.05	5456	5541	5438	234377	128.54		142.61		
<b>WICHITA, KANSAS</b> (WICHITA MUNI).....	0.14	14608	14782	14455	592617	8999.75	23.52	2834.09	2.89	
<b>OVER-ALL TOTAL, SMALL HUBS</b> .....	6.99	636536	652900	631136	30032059	184141.70	84.87	93928.32	6441.46	3.51

**TABLE 4.11**  
**TOP 100 AIRPORTS**  
**IN RANK ORDER BY TOTAL ENPLANED PASSENGERS**  
**LARGE SCHEDULED CERTIFICATED AIR CARRIERS**  
**SCHEDULED AND NONSCHEDULED OPERATIONS**  
**1989**

Rank	Airport	Total Enplaned Passengers	Rank	Airport	Total Enplaned Passengers
1	Chicago (O'Hare), IL .....	25,664,266	51	Kahului, Maui, HI .....	2,132,737
2	Dallas/Ft. Worth (Regional), TX .....	22,623,065	52	Dayton, OH .....	2,083,123
3	Atlanta, GA .....	20,397,697	53	Oakland, CA .....	2,030,847
4	Los Angeles, CA .....	18,583,292	54	Austin, TX .....	2,022,265
5	San Francisco, CA .....	13,326,085	55	Milwaukee, WI .....	1,871,914
6	Denver, CO .....	12,320,246	56	Sacramento, CA .....	1,800,078
7	New York (La Guardia), NY .....	10,839,833	57	El Paso, TX .....	1,672,402
8	Phoenix, AZ .....	10,166,095	58	Columbus, OH .....	1,662,389
9	New York (John F. Kennedy), NY .....	10,081,490	59	Buffalo, NY .....	1,628,990
10	Newark, NJ .....	9,822,419	60	Okalahoma City, OK .....	1,540,265
11	Detroit, MI .....	9,739,265	61	Ft. Myers, FL .....	1,525,884
12	Boston, MA .....	9,661,258	62	Tulsa, OK .....	1,440,936
13	St. Louis, MO .....	9,396,335	63	Reno, NV .....	1,359,684
14	Honolulu, Oahu, HI .....	8,943,521	64	Lihue, Kauai, HI .....	1,340,587
15	Miami, FL .....	8,591,936	65	Burbank, CA .....	1,319,568
16	Minneapolis/St. Paul, MN .....	8,460,115	66	Tucson, AZ .....	1,310,931
17	Pittsburgh, PA .....	7,940,962	67	Norfolk, VA .....	1,297,895
18	Orlando, FL .....	7,373,449	68	Syracuse, NY .....	1,271,956
19	Seattle-Tacoma, WA .....	7,059,777	69	Jacksonville, FL .....	1,249,258
20	Houston (Intercontinental), TX .....	7,030,001	70	Anchorage, AK .....	1,159,457
21	Las Vegas, NV .....	7,026,900	71	Rochester, NY .....	1,149,438
22	Charlotte, NC .....	6,903,482	72	Omaha, NE .....	1,006,752
23	Washington (National), DC .....	6,895,563	73	Birmingham, AL .....	989,614
24	Philadelphia, PA .....	6,247,489	74	Kailua-Kona, Hawaii, HI .....	982,227
25	San Diego, CA .....	5,317,177	75	Providence, RI .....	952,289
26	Salt Lake City, UT .....	5,244,238	76	Little Rock, AR .....	947,323
27	Washington (Dulles Int'l), DC .....	4,543,530	77	Louisville, KY .....	910,288
28	Baltimore, MD .....	4,446,139	78	Greensboro, NC .....	894,404
29	Tampa, FL .....	4,409,261	79	Albany, NY .....	838,447
30	Kansas City, MO .....	4,356,991	80	Richmond, VA .....	826,955
31	Raleigh/Durham, NC .....	4,116,520	81	Sarasota, FL .....	794,430
32	Memphis, TN .....	3,989,814	82	Spokane, WA .....	726,804
33	Houston (William P. Hobby), TX .....	3,927,329	83	Des Moines, IA .....	669,184
34	Cincinnati, OH .....	3,770,623	84	Long Beach, CA .....	661,766
35	Nashville, TN .....	3,746,367	85	Grand Rapids, MI .....	649,089
36	Cleveland, OH .....	3,722,208	86	Lubbock, TX .....	627,500
37	Ft. Lauderdale, FL .....	3,645,786	87	Guam, Guam .....	624,228
38	Chicago (Midway), IL .....	3,409,726	88	Hilo, HI .....	611,259
39	San Juan, PR .....	3,268,644	89	Colorado Springs, CO .....	599,669
40	New Orleans, LA .....	3,170,967	90	Charleston, SC .....	596,890
41	San Jose, CA .....	3,093,643	91	Midland, TX .....	596,702
42	Portland, OR .....	3,054,925	92	Wichita, KS .....	592,617
43	Dallas (Love Field), TX .....	2,773,836	93	Brownsville, TX .....	534,945
45	Ontario, CA .....	2,608,588	94	Boise, ID .....	534,499
44	Indianapolis, IN .....	2,522,944	95	Savannah, GA .....	499,028
46	San Antonio, TX .....	2,493,393	96	Greenville, SC .....	493,426
47	West Palm Beach, FL .....	2,403,585	97	Columbia, SC .....	487,069
48	Albuquerque, NM .....	2,336,577	98	Knoxville, TN .....	481,896
49	Hartford, CT .....	2,269,982	99	Harrisburg/York, PA .....	443,954
50	Orange County, CA .....	2,173,502	100	Amarillo/Borger, TX .....	441,677



## **V. U.S. CIVIL AIR CARRIER FLEET**

U.S. air carrier fleet data shown in this chapter were developed from monthly Aircraft/Engine Utilization Reports submitted by air carrier operators. The aircraft population discussed here is not an inventory of the aircraft owned by the air carriers, but represents the aircraft reported in air carrier use during the last quarter of the year.

Prior to 1987, the fleet size was the number of aircraft reported in operation by the carriers in December. Some of the carriers do not report each month. To adjust for this undercount, beginning in 1987, the fleet size is the monthly average of the number of aircraft reported in operation for the last quarter of the year. For example, if the carrier reported for two months, the fleet count is the average for the two months. If the carrier did not report any aircraft in the last quarter, there is no fleet data for that carrier.

**TABLE 5.1**  
**TOTAL AIRCRAFT REPORTED IN OPERATION**  
**BY AIR CARRIERS BY TYPE OF AIRCRAFT**  
**1980-1989**

Year	Total	Fixed-Wing				Piston	Total Rotary-Wing
		Total Fixed-Wing	Turbine				
			Total	Turbojet	Turboprop		
1980	3,808	3,806	3,218	2,531	687	588	2
1981	3,973	3,969	3,363	2,511	852	603	4
1982	4,072	4,067	3,501	2,674	827	566	5
1983	4,203	4,194	3,643	2,767	876	551	9
1984	4,370	4,358	3,915	2,959	956	443	12
1985	4,678	4,673	4,240	3,164	1,076	433	5
1986	4,909	4,907	4,487	3,283	1,204	420	2
1987	5,253	5,240	4,819	3,575	1,244	421	13
1988	5,660	5,652	5,290	3,915	1,375	362	8
1989	5,778	5,771	5,418	3,942	1,476	353	7

NOTE: Beginning in 1987, the number of aircraft is the monthly average of the number of aircraft reported in use for the last three months of the year. Prior to 1987, it was the number of aircraft reported in use during December of the year.

Source: Air Carrier Aircraft Utilization and Propulsion Reliability Report; Aviation Standards National Field Office, Federal Aviation Administration.

**TABLE 5.2**  
**AIRCRAFT REPORTED IN OPERATION**  
**BY AIR CARRIERS, BY MANUFACTURER AND MODEL**  
**1980-1989**

Aircraft Make and Model	1989	1988	1987	1986	1985	1984	1983	1982	1981	1980
<b>TOTAL</b>	<b>5,778</b>	<b>5,660</b>	<b>5,253</b>	<b>4,909</b>	<b>4,678</b>	<b>4,370</b>	<b>4,204</b>	<b>4,702</b>	<b>3,970</b>	<b>3,808</b>
<b>Turbojet-4-engine—Total</b>	<b>428</b>	<b>427</b>	<b>382</b>	<b>322</b>	<b>322</b>	<b>349</b>	<b>309</b>	<b>354</b>	<b>365</b>	<b>441</b>
Boeing B707	27	31	31	35	27	22	24	55	66	146
Boeing B720	—	—	—	—	—	—	1	1	2	3
Boeing B747	180	171	156	150	151	156	146	144	147	144
British Aerospace Aircraft Groupe BAE146	53	57	57	25	29	14	3	—	—	—
Convair CV22	—	—	—	—	—	—	2	2	2	1
Convair CV30	—	—	—	—	—	—	—	1	4	5
Douglas DC8	168	168	138	112	115	157	133	151	144	142
<b>Turbojet-3-engine—Total</b>	<b>1,459</b>	<b>1,542</b>	<b>1,469</b>	<b>1,466</b>	<b>1,488</b>	<b>1,438</b>	<b>1,393</b>	<b>1,387</b>	<b>1,363</b>	<b>1,347</b>
Boeing B727	1,167	1,246	1,168	1,172	1,195	1,161	1,122	1,110	1,096	1,092
Douglas DC10	185	184	185	180	179	174	155	166	161	153
Lockheed L1011	107	112	116	114	114	103	116	111	106	102
<b>Turbojet-2-engine—Total</b>	<b>2,055</b>	<b>1,946</b>	<b>1,724</b>	<b>1,495</b>	<b>1,354</b>	<b>1,172</b>	<b>1,065</b>	<b>933</b>	<b>783</b>	<b>743</b>
Airbus A300	63	57	52	52	46	38	34	30	25	19
Airbus A310	19	19	13	7	4	—	—	—	—	—
Airbus A320	11	—	—	—	—	—	—	—	—	—
Boeing B737	756	706	633	555	476	391	348	290	236	220
Boeing B757	146	122	95	73	48	19	15	2	—	—
Boeing B767	111	126	83	69	59	53	49	13	—	—
British Aircraft BAC111	—	30	39	45	32	33	36	36	27	27
Canadair CL600	—	—	—	—	—	—	—	1	—	—
Cessna J500/C501	—	—	—	—	2	1	1	2	1	5
Cessna C550	5	—	—	—	—	—	—	—	—	—
Dassault MD10	—	—	—	—	—	2	—	—	—	—
Dassault MD20	—	—	—	—	2	9	12	23	27	42
Douglas DC9	888	837	760	643	641	594	557	509	447	394
Fokker F28	53	47	47	50	41	23	6	11	9	5
Grumman G1159	—	—	—	—	—	1	2	3	5	6
Hamberger Flugzeugbau HFB320	—	—	—	—	—	1	1	—	—	—
Hawker-Siddeley HS125	—	—	—	—	—	—	—	2	—	—
Israel Aircraft 1123	—	—	—	—	—	—	—	—	—	—
Israel Aircraft 1124	—	—	—	—	—	—	—	1	—	1
Learjet LR23	—	—	—	—	—	—	—	3	—	2
Learjet LR24	—	—	—	—	—	—	—	1	3	3
Learjet LR25	2	1	—	—	—	—	—	—	1	7
Learjet LR35	1	1	2	1	3	8	4	3	—	3
Learjet LR55	—	—	—	—	—	—	—	1	—	—
Rockwell International NA265	—	—	—	—	—	—	—	1	—	2
Sud Aviation SE210	—	—	—	—	—	—	1	2	2	5
Sud Aviation SN601	—	—	—	—	—	—	—	—	2	3
<b>Turboprop-4-engine—Total</b>	<b>96</b>	<b>95</b>	<b>102</b>	<b>96</b>	<b>108</b>	<b>109</b>	<b>99</b>	<b>116</b>	<b>105</b>	<b>92</b>
Canadair CL44	5	6	6	2	6	5	2	4	4	2
DeHavilland DHC7	41	39	41	40	42	46	46	43	29	18
Lockheed L188	30	30	34	33	38	34	37	47	51	52
Lockheed L382	20	20	21	21	22	22	11	19	20	20
Vickers V745	—	—	—	—	—	2	3	3	1	—
<b>Turboprop-2-engine—Total</b>	<b>1,380</b>	<b>1,280</b>	<b>1,139</b>	<b>1,108</b>	<b>965</b>	<b>847</b>	<b>773</b>	<b>707</b>	<b>748</b>	<b>591</b>
Beech BE65	—	1	4	1	—	—	—	—	—	—
Beech BE90	—	1	4	—	3	2	2	4	2	2
Beech BE99	53	84	52	95	103	85	101	108	102	87
Beech BE100	1	1	—	1	1	2	1	—	—	—

**TABLE 5.2—Continued**  
**AIRCRAFT REPORTED IN OPERATION**  
**BY AIR CARRIERS, BY MANUFACTURER AND MODEL**  
**1980-1989**

Aircraft Make and Model	1989	1988	1987	1986	1985	1984	1983	1982	1981	1980
Beech BE200 .....	10	7	5	2	1	6	4	2	2	1
Beech BE1900 .....	109	80	48	60	42	17	—	—	—	—
Beech STC18 .....	—	—	—	—	—	1	1	1	—	—
British Aerospace Aircraft Group Jetstream .....	165	135	113	69	46	10	10	12	12	15
Cessna C441 .....	4	3	2	3	1	3	1	2	—	1
Construcciones Aeronautics C212 .....	16	18	16	19	24	27	28	16	15	21
Convair CV580/640/600 .....	58	72	77	91	100	107	100	98	251	119
DeHavilland DHC6 .....	69	63	71	68	86	107	112	101	96	107
DeHavilland DHC8 .....	64	44	34	26	10	—	—	—	—	—
Dornier DO228 .....	34	33	18	12	6	—	—	—	—	—
Douglas DC3 .....	—	—	—	—	1	—	—	—	—	—
Embraer EM110 .....	59	77	97	91	79	81	83	83	66	34
Embraer EM120 .....	105	62	36	16	—	—	—	—	—	—
Fairchild FH27 .....	7	7	13	20	28	23	19	10	8	6
Fairchild FH227 .....	4	11	8	7	8	9	9	9	6	8
Fokker F27 .....	42	33	26	36	27	14	7	4	2	4
GAF Nomad N22 .....	—	—	—	—	—	—	—	2	3	9
Grumman G73 .....	5	7	—	—	—	—	—	—	—	—
Grumman G159 .....	6	5	14	15	23	21	16	19	17	16
Grumman G500 .....	—	1	—	—	—	—	—	—	—	—
Hawker-Siddeley HS748 .....	—	—	—	—	—	2	5	5	2	2
Israel Aircraft AR101B .....	—	—	—	—	—	—	—	3	2	—
Mitsubishi MU2 .....	—	—	1	6	3	1	2	—	—	—
Nihon YS11 .....	21	22	36	36	42	30	35	27	27	22
Nomad N24 .....	—	—	—	—	—	—	—	—	—	—
Nord ND262 .....	2	9	12	15	14	14	9	15	15	22
Piper 31T .....	12	9	6	5	4	8	6	1	1	—
Rockwell AC690 .....	—	1	1	4	4	4	1	—	—	—
Saab-Fairchild SF340A .....	85	68	51	34	17	3	—	—	—	—
Short SC7 .....	—	—	—	1	1	1	1	2	2	2
Short SD3 .....	118	110	110	110	77	78	66	52	39	34
S.N.I.A.S. ATR42 .....	62	35	20	8	—	—	—	—	—	—
Swearingen SA226 .....	57	90	101	122	113	121	99	105	72	100
Swearingen SA227 .....	212	191	163	135	101	70	55	26	4	—
<b>Turboprop-1-engine—Total .....</b>	<b>—</b>	<b>—</b>	<b>3</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>
Cessna C208 .....	—	—	3	—	—	—	—	—	—	—
<b>Piston-4-engine—Total .....</b>	<b>35</b>	<b>36</b>	<b>38</b>	<b>32</b>	<b>38</b>	<b>50</b>	<b>52</b>	<b>58</b>	<b>68</b>	<b>73</b>
DeHavilland DH114 .....	—	—	—	—	—	6	11	17	21	27
Douglas DC4 .....	—	—	—	1	3	3	3	3	6	5
Douglas DC6 .....	34	35	37	30	34	41	38	38	41	41
Douglas DC7 .....	1	1	1	1	1	—	—	—	—	—
<b>Piston-3-engine—Total .....</b>	<b>5</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>4</b>	<b>4</b>	<b>2</b>	<b>—</b>	<b>—</b>	<b>—</b>
Britten Norman MK3 .....	5	3	3	3	4	4	2	—	—	—
<b>Piston-2-engine—Total .....</b>	<b>313</b>	<b>323</b>	<b>380</b>	<b>385</b>	<b>394</b>	<b>389</b>	<b>502</b>	<b>512</b>	<b>536</b>	<b>517</b>
Aero Commander AC500 .....	—	—	—	—	—	—	2	1	1	3
Aero Commander AC680 .....	—	—	—	—	—	—	—	1	1	3
Beech BF1A .....	5	6	5	9	7	15	20	14	20	13
Beech BE36 .....	1	3	—	—	—	—	—	—	—	—
Beech BE55 .....	—	—	2	1	—	—	1	2	2	2
Beech BE58 .....	6	15	7	4	9	9	6	5	3	3
Beech BE65 .....	2	2	2	3	—	—	3	2	4	1
Beech BE76 .....	—	—	—	2	3	3	1	1	—	—
Beech BE80 .....	—	—	—	—	4	8	—	—	—	2
Beech BE95 .....	1	3	—	—	—	—	—	—	1	1
Beech BE99 .....	—	—	—	—	—	—	1	—	—	—

**TABLE 5.2—Continued**  
**AIRCRAFT REPORTED IN OPERATION**  
**BY AIR CARRIERS, BY MANUFACTURER AND MODEL**  
**1980-1989**

Aircraft Make and Model	1989	1988	1987	1986	1985	1984	1983	1982	1981	1980
Beech STC-18.....	—	—	—	—	—	—	—	—	—	5
Britten-Norman BN2A.....	16	30	29	29	7	27	29	33	35	31
Cessna C207T.....	—	—	—	—	—	—	1	1	—	—
Cessna C303T.....	—	1	1	1	1	—	—	—	—	—
Cessna C310.....	2	—	1	1	1	2	3	4	5	7
Cessna C320.....	—	—	—	—	—	1	—	—	—	—
Cessna C340.....	—	—	—	—	—	—	—	—	1	2
Cessna C401.....	1	4	—	—	—	—	—	2	—	2
Cessna C402.....	98	101	143	147	155	112	152	130	131	115
Cessna C404.....	1	4	4	6	5	4	8	22	17	20
Cessna C411.....	—	—	—	—	—	1	—	—	1	1
Cessna C414.....	—	—	—	2	1	1	1	—	3	1
Cessna C421.....	—	1	—	—	—	1	—	1	—	1
Convair CV240.....	9	9	10	9	12	15	10	11	12	4
Convair CV340/CV440.....	26	21	23	17	18	14	22	23	28	23
Curtiss-Wright C46.....	—	—	—	—	3	2	4	5	12	13
DeHavilland DHC4.....	—	—	—	—	—	—	—	—	—	1
DeHavilland DHC104.....	—	—	—	—	—	—	—	—	2	—
Dornier DO28.....	—	—	—	—	—	—	—	—	2	1
Douglas DC3.....	19	20	38	43	39	30	42	50	56	68
Fairchild C82.....	—	—	—	—	—	—	2	1	2	2
Grumman G21.....	—	—	—	—	3	4	3	3	1	6
Grumman G44.....	—	1	1	1	1	1	1	1	1	—
Grumman G73.....	3	4	12	11	3	5	9	9	2	4
Grumman G111.....	—	—	2	3	6	—	4	2	—	—
Martin M404.....	2	2	1	—	—	1	13	11	11	14
Partenavia PT68.....	—	—	2	—	—	—	—	—	—	—
Piper PA23.....	9	9	11	9	3	10	16	18	19	26
Piper PA28.....	—	—	—	—	—	—	7	—	—	—
Piper PA30.....	—	—	—	—	—	1	2	2	2	2
Piper PA31.....	100	71	77	73	100	110	121	139	145	126
Piper PA32.....	2	2	2	—	—	—	—	—	—	—
Piper PA34.....	9	12	4	9	12	11	17	16	15	12
Piper PA44.....	—	1	1	1	1	1	1	1	1	1
Piper PA600.....	1	1	2	2	—	—	—	1	—	1
Piper PA1020T.....	—	—	—	2	—	—	—	—	—	—
<b>Helicopters—Total</b>	<b>7</b>	<b>8</b>	<b>13</b>	<b>2</b>	<b>5</b>	<b>12</b>	<b>9</b>	<b>5</b>	<b>4</b>	<b>2</b>

NOTE: Beginning in 1987, the number of aircraft is the monthly average of the number of aircraft reported in use for the last three months of the year. Prior to 1987, it was the number of aircraft reported in use during December of the year.

Source: Air Carrier Aircraft Utilization and Propulsion Reliability Report; Aviation Standards National Field Office, Federal Aviation Administration.

**TABLE 5.3**  
**TOTAL FLIGHT HOURS FOR**  
**AIRCRAFT REPORTED IN OPERATION**  
**BY AIR CARRIERS, BY MANUFACTURER AND MODEL**  
**1980-1989**

Aircraft Make and Model	1989	1988	1987	1986	1985	1984	1983	1982	1981	1980
<b>TOTAL</b>	<b>12,687,535</b>	<b>12,284,541</b>	<b>11,886,280</b>	<b>11,221,587</b>	<b>10,498,546</b>	<b>9,674,406</b>	<b>8,555,580</b>	<b>6,916,349</b>	<b>8,124,998</b>	<b>8,221,961</b>
<b>Turbojet-4-engine—Total</b>	<b>1,120,917</b>	<b>1,093,392</b>	<b>997,951</b>	<b>921,409</b>	<b>817,058</b>	<b>861,389</b>	<b>816,624</b>	<b>728,412</b>	<b>957,880</b>	<b>1,223,377</b>
Boeing B707	40,046	43,946	36,206	37,448	15,904	39,243	64,819	83,515	153,877	359,112
Boeing B720	—	—	—	—	—	136	438	317	438	1,124
Boeing B747	643,231	620,327	575,426	559,137	537,954	537,142	504,573	439,003	531,035	529,314
British Aerospace Aircraft										
Group BAE146	121,415	128,339	125,918	92,431	52,452	14,140	1,623	—	—	—
Concorde	—	—	—	—	—	—	—	—	—	415
Convair CV22	—	—	—	—	—	—	—	656	543	71
Convair CV30	—	—	—	—	—	—	—	219	657	1,437
Douglas DC8	316,225	300,780	260,401	232,393	210,748	270,728	245,171	204,702	271,330	331,417
Lockheed L1329	—	—	—	—	—	—	—	—	—	487
<b>Turbojet-3-engine—Total</b>	<b>3,533,071</b>	<b>3,705,084</b>	<b>3,865,525</b>	<b>3,960,406</b>	<b>3,843,357</b>	<b>3,786,832</b>	<b>3,278,501</b>	<b>2,971,583</b>	<b>3,531,243</b>	<b>3,693,218</b>
Boeing B727	2,606,796	2,780,240	2,930,107	3,036,233	2,989,848	2,990,821	2,529,074	2,289,310	2,769,906	2,949,274
Douglas DC10	589,989	583,558	566,751	580,200	529,073	487,831	423,824	377,811	442,698	441,576
Lockheed L1011	336,286	341,286	368,667	343,973	324,436	308,180	325,603	304,462	318,639	302,368
<b>Turbojet-2-engine—Total</b>	<b>5,295,578</b>	<b>4,951,466</b>	<b>4,575,179</b>	<b>4,057,267</b>	<b>3,568,486</b>	<b>2,872,265</b>	<b>2,494,072</b>	<b>1,751,513</b>	<b>1,817,081</b>	<b>1,715,937</b>
Airbus A300	158,716	150,603	156,947	150,898	131,904	101,143	84,674	56,390	61,783	43,703
Airbus A310	76,537	61,663	27,234	17,054	5,613	—	—	—	—	—
Airbus A320	8,523	—	—	—	—	—	—	—	—	—
Boeing B737	2,039,117	1,859,347	1,730,473	1,489,831	1,312,425	1,006,238	829,359	562,521	585,997	522,556
Boeing B757	359,955	321,369	270,729	195,957	108,320	50,022	17,090	—	—	—
Boeing B767	412,183	367,591	274,429	223,227	192,467	172,705	104,222	1,811	—	—
British Aircraft BAC111	27,611	65,095	84,642	68,908	73,873	59,555	79,011	54,306	58,560	65,194
Cessna C500/C501	—	—	54	50	546	657	652	423	1,767	3,773
Cessna C550	3,237	—	—	—	—	—	—	—	—	—
Dassault MD10	—	—	—	—	2,262	698	—	—	—	—
Dassault MD20	—	—	—	—	4,336	3,218	11,097	18,303	31,559	33,823
DeHavilland DHC125	—	—	—	—	—	—	—	—	—	—
Douglas DC9	2,106,800	2,035,672	1,931,391	1,809,888	1,655,353	1,438,339	1,348,511	1,028,836	1,051,747	1,023,200
Fokker F28	101,421	88,682	97,727	98,918	73,494	33,036	13,224	23,996	17,123	2,642
Grumman G1159	—	47	—	—	334	660	309	1,308	2,392	2,774
Hamberger Flugzeugbam										
HFB320	—	—	—	—	—	102	734	—	—	1,310
Hawker-Siddeley HS125	—	—	—	—	—	—	—	304	—	—
Israel Aircraft 1121	—	—	—	—	—	—	8	—	—	—
Israel Aircraft 1123	—	—	—	—	—	—	—	—	—	39
Israel Aircraft 1124	—	—	—	—	—	—	—	208	88	209
Learjet LR23	—	—	—	—	—	1,227	785	1,228	1,658	—
Learjet LR24	—	—	—	—	—	—	537	436	476	1,160
Learjet LR25	482	44	—	—	—	—	—	26	1,007	4,041
Learjet LR35	996	1,353	1,553	2,536	7,559	5,892	3,148	688	697	1,700
Learjet LR55	—	—	—	—	—	—	—	253	—	—
Rockwell International										
NA265	—	—	—	—	—	—	49	20	46	589
Sud Aviation SE210	—	—	—	—	—	—	220	899	1,177	5,966
Sud Aviation SN601	—	—	—	—	—	—	—	—	1,434	1,600
<b>Turboprop-4-engine—</b>										
<b>Total</b>	<b>175,469</b>	<b>154,747</b>	<b>181,424</b>	<b>169,884</b>	<b>209,197</b>	<b>216,405</b>	<b>206,435</b>	<b>163,552</b>	<b>186,955</b>	<b>158,687</b>
Canadair CL44	6,527	8,427	9,355	8,687	9,147	7,567	6,066	5,303	4,617	2,155
DeHavilland DHC7	86,434	76,027	91,899	73,524	98,315	106,287	103,528	73,069	64,698	31,472
Lockheed L188	31,457	23,691	33,618	38,019	44,765	45,182	47,981	41,594	60,909	69,217
Lockheed L382	51,051	46,602	46,552	42,654	56,597	56,165	47,877	42,250	56,615	55,843
Vickers V745	—	—	—	—	373	1,204	983	912	116	—
Vickers V814	—	—	—	—	—	—	—	424	—	—
<b>Turboprop-2-engine—</b>										
<b>Total</b>	<b>2,335,386</b>	<b>2,118,066</b>	<b>1,943,532</b>	<b>1,720,179</b>	<b>1,616,425</b>	<b>1,487,032</b>	<b>1,288,616</b>	<b>935,588</b>	<b>1,127,794</b>	<b>948,180</b>
Beech BE65	—	—	596	639	—	—	—	—	—	—
Beech BE90	40	374	303	158	360	443	626	479	209	537

**TABLE 5.3—Continued**  
**TOTAL FLIGHT HOURS FOR**  
**AIRCRAFT REPORTED IN OPERATION**  
**BY AIR CARRIERS, BY MANUFACTURER AND MODEL**  
**1980-1989**

Aircraft Make and Model	1989	1988	1987	1986	1985	1984	1983	1982	1981	1980
Beech BE99	86,255	125,247	141,691	175,543	199,736	199,205	183,534	137,968	164,467	171,475
Beech BE100	934	769	803	259	806	202	13	—	—	255
Beech BE200	15,134	9,679	3,625	970	3,541	2,522	1,868	1,813	960	886
Beech BE1900	196,469	153,473	135,960	107,128	73,211	23,289	—	—	—	—
Beech STC18	—	—	—	982	—	648	632	181	236	—
British Aerospace Aircraft										
Group Jet Stream	274,357	252,253	188,315	108,723	60,492	27,712	18,485	16,222	25,836	25,982
Cessna C441	3,713	4,948	3,874	1,364	1,745	1,672	1,265	501	291	107
Construcciones										
Aeronautics C212	21,710	23,610	21,643	19,891	24,886	34,252	33,902	21,870	109,613	637
Convair CV580/600/640	38,641	63,141	82,371	100,288	113,063	121,399	121,785	104,432	146,867	169,886
DeHavilland DHC6	107,403	113,810	122,783	113,958	162,340	176,233	169,980	139,042	170,458	167,282
DeHavilland DHC8	127,911	80,964	55,680	36,835	7,362	—	—	—	—	—
Dornier DO228	57,357	56,580	26,032	16,044	12,306	—	—	—	—	—
Douglas DC3	—	531	—	—	1,478	—	—	—	—	—
Embraer EM110	124,773	148,880	177,781	149,585	156,363	199,536	196,128	127,153	94,790	36,468
Embraer EM120	211,897	114,296	66,054	18,838	—	—	—	—	—	—
Fairchild FH27	4,709	9,821	13,502	31,232	36,440	35,521	24,777	12,438	6,132	3,441
Fairchild FH227	4,209	12,169	11,787	13,244	14,491	17,053	19,525	13,341	13,690	17,134
Fokker F27	60,371	50,645	59,910	61,144	40,521	25,056	13,151	6,047	3,675	5,196
GAF Nomad N22	—	—	—	—	—	—	69	3,628	10,432	5,546
Gruman G73	6,328	10,036	—	—	—	—	—	—	—	—
Grumman G159	9,669	7,139	15,177	23,328	23,911	20,773	18,339	8,532	14,843	14,273
Gruman G500	88	93	—	—	—	—	—	—	—	—
Hawker-Siddeley HS748	—	—	—	—	2,500	7,385	9,320	12,031	4,979	2,564
Israel Aircraft AR101B	—	—	—	—	—	—	587	2,284	139	—
Mitsubishi MU2	—	88	256	2,980	1,390	314	14	—	—	—
Nihon YS11	16,003	17,645	38,093	46,268	53,707	48,246	43,260	25,610	35,737	37,280
Nomad N24	—	1,907	—	—	—	—	—	—	—	—
Nord ND262	898	11,132	23,313	24,860	20,604	20,820	22,446	14,630	21,986	44,857
Piper 31T	11,410	8,232	5,656	4,865	7,003	10,103	2,692	—	70	—
Rockwell AC690	—	4	476	3,057	3,076	2,683	22	—	—	—
Saab-Fairchild SF340A	171,936	152,177	98,616	56,392	20,627	386	—	—	—	—
Short SC7	112	—	—	101	315	475	733	520	1,008	489
Short SD3	192,509	183,422	217,177	184,680	178,862	150,714	123,385	79,909	77,708	66,606
S.N.I.A.S. ATR42	120,074	60,029	27,943	5,923	—	—	—	—	—	—
Swearingen SA226	97,484	144,032	163,994	185,243	217,667	218,716	194,324	169,688	223,059	177,240
Swearingen SA227	372,992	300,940	240,121	225,657	177,622	141,674	87,754	37,209	609	39
<b>Turboprop-1-engine—</b>										
<b>Total</b>	—	452	581	—	—	—	—	—	—	—
Cessna C208	—	452	581	—	—	—	—	—	—	—
<b>Piston-4-engine—Total</b>	24,538	25,083	24,367	24,909	30,854	29,215	33,616	35,782	64,951	70,295
DeHavilland DH114	—	—	—	—	2,626	7,847	16,835	22,598	42,702	39,110
Douglas DC4	—	—	—	1,038	1,512	720	1,187	256	1,304	3,150
Douglas DC6	23,418	24,055	23,405	23,049	26,039	20,648	15,594	12,928	20,945	28,035
Douglas DC7	1,120	1,028	962	822	677	—	—	—	—	—
<b>Piston-3-engine—Total</b>	3,229	2,831	2,477	1,716	5,470	2,983	1,191	—	—	—
Britten Norman MK3	3,229	2,831	2,477	1,716	5,470	2,983	1,191	—	—	—
<b>Piston-2-engine—Total</b>	194,619	229,150	291,397	360,832	402,377	410,287	427,488	324,539	437,955	411,897
Aero Commander AC500	—	13	—	6	28	300	878	678	789	1,503
Aero Commander AC680	—	70	—	—	—	—	581	759	1,129	892
Beech BE18	1,157	466	578	345	3,015	9,723	10,721	5,928	8,160	7,521
Beech A36TC	1,083	1,040	659	—	—	—	—	—	—	—
Beech BE55	—	—	—	194	—	284	674	936	981	961
Beech BE58	2,285	2,498	2,165	1,727	4,262	2,637	1,430	1,558	1,476	827
Beech BE65	2,355	3,940	2,181	5,252	—	—	3,385	1,632	3,435	1,160
Beech BE76	—	—	28	142	525	586	306	78	—	123
Beech BE80	—	—	—	—	7,031	7,667	—	—	591	3,002

**TABLE 5.3—Continued**  
**TOTAL FLIGHT HOURS FOR**  
**AIRCRAFT REPORTED IN OPERATION**  
**BY AIR CARRIERS, BY MANUFACTURER AND MODEL**  
**1980-1989**

Aircraft Make and Model	1989	1988	1987	1986	1985	1984	1983	1982	1981	1980
Beech BE95.....	435	899	635	9	—	—	—	95	557	105
Beech BE99.....	—	—	—	—	—	—	3,719	—	—	—
Beech STC-18.....	—	—	—	—	—	—	—	—	—	2,769
Britten-Norman BN2A.....	15,033	18,129	19,729	26,166	22,774	28,306	31,204	32,003	39,315	21,239
Britten-Norman BN28.....	—	—	—	—	—	—	—	—	—	1,407
Cessna C207T.....	639	—	—	—	—	—	218	60	—	—
Cessna C210T.....	—	—	—	—	45	244	—	—	—	—
Cessna C303T.....	—	67	6	—	237	207	—	—	—	—
Cessna C310.....	573	—	440	490	372	956	1,059	2,573	4,227	2,857
Cessna C320.....	—	—	—	—	8	20	—	—	—	—
Cessna C337.....	—	—	—	—	—	—	—	—	—	129
Cessna C340.....	—	134	—	—	—	6	—	18	138	499
Cessna C401.....	1,632	376	—	—	—	—	788	513	1,234	630
Cessna C402.....	86,012	104,933	139,843	184,470	191,070	166,914	152,596	103,415	137,504	120,892
Cessna C404.....	837	2,321	4,022	4,959	4,562	6,739	2,094	14,164	22,977	22,260
Cessna C411.....	—	—	—	—	102	135	—	6	60	470
Cessna C414.....	—	11	189	1,279	523	522	2,267	15	645	655
Cessna C421.....	26	89	—	—	46	26	32	26	14	573
Convair CV240.....	3,045	3,694	2,967	3,106	6,284	7,861	6,609	7,399	8,299	3,633
Convair CV340/CV440.....	6,820	6,229	6,384	5,584	4,664	6,910	15,932	10,633	17,163	13,744
Curtiss-Wright C46.....	—	—	—	411	1,104	966	1,821	2,340	3,358	4,673
DeHavilland DHC4.....	—	—	—	—	—	—	—	—	—	91
DeHavilland DHC104.....	—	—	—	—	—	—	—	489	2,014	1,268
Dornier DO28.....	—	—	—	—	—	—	—	—	199	400
Douglas DC3.....	7,389	14,680	21,485	25,971	25,916	23,498	21,836	19,649	25,861	32,749
Fairchild C82.....	—	—	—	—	6	708	1,252	1,485	2,198	2,127
Grumman G10.....	—	—	—	—	—	—	—	1,104	—	—
Grumman G21.....	—	—	—	787	1,861	1,927	1,453	920	1,309	3,474
Grumman G44.....	—	—	—	56	110	151	96	80	76	—
Grumman G73.....	1,191	1,887	11,178	10,411	7,979	7,669	7,692	5,004	7,221	3,662
Grumman G111.....	—	—	1,712	3,476	3,207	4,298	1,817	—	—	—
Martin M404.....	—	127	10	—	217	5,094	5,732	5,051	9,014	7,604
Partenavia PT68.....	—	13	1,362	—	—	—	—	—	—	—
Piper PA23.....	3,419	4,024	5,100	4,113	6,308	4,691	6,658	4,871	9,969	9,996
Piper PA28.....	451	—	—	—	—	—	42	33	—	—
Piper PA30.....	—	—	—	—	17	460	721	228	392	281
Piper PA31.....	56,781	61,016	67,554	72,782	102,855	114,330	128,305	95,310	118,451	120,618
Piper PA32.....	530	768	698	—	—	—	—	—	—	—
Piper PA34.....	2,895	1,266	981	7,352	7,255	6,660	7,298	5,022	8,853	8,569
Piper PA44.....	20	354	524	418	39	—	259	205	238	938
Piper PA600.....	11	106	409	321	—	—	169	239	108	7,596
Piper PA1020T.....	—	—	558	1,005	—	—	—	—	—	—
<b>Helicopters—Total.....</b>	<b>4,728</b>	<b>4,270</b>	<b>3,847</b>	<b>4,985</b>	<b>5,322</b>	<b>7,998</b>	<b>9,037</b>	<b>5,380</b>	<b>1,139</b>	<b>370</b>

Source: Air Carrier Aircraft Utilization and Propulsion Reliability Report; Aviation Standards National Field Office, Federal Aviation Administration.



**TABLE 5.4**  
**TOTAL LARGE AIRCRAFT REPORTED IN OPERATION BY DOMESTIC, FLAG AND**  
**SUPPLEMENTAL/SCHEDULED**  
**CARGO AIR CARRIERS AND COMMERCIAL OPERATORS**  
**BY CARRIER, AND BY ENGINE TYPE**  
**1989**

Name of Carrier	Total All Aircraft	Turbojet				Turboprop			Piston				Rotary Wing
		Total	4-eng.	3-eng.	2-eng.	Total	4-eng.	2-eng.	Total	4-eng.	3-eng.	2-eng.	
<b>TOTAL</b>	<b>4,477</b>	<b>3,939</b>	<b>428</b>	<b>1,459</b>	<b>2,052</b>	<b>447</b>	<b>96</b>	<b>351</b>	<b>91</b>	<b>35</b>	<b>—</b>	<b>56</b>	<b>—</b>
ABX Air dba Airborne Express	44	32	12	—	20	12	—	—	—	—	—	—	—
Aerial Transit	6	—	—	—	—	—	—	—	6	6	—	—	—
Aero Virgin Islands	1	—	—	—	—	—	—	—	1	—	—	1	—
Air Berlin	1	1	1	—	—	—	—	—	—	—	—	—	—
Air Specialties dba Air America	4	4	—	4	—	—	—	—	—	—	—	—	—
Air Transport Intl.	5	5	5	—	—	—	—	—	—	—	—	—	—
Air Wisconsin dba United Express	31	12	12	—	—	19	—	19	—	—	—	—	—
Airlift International	5	1	1	—	—	4	—	4	—	—	—	—	—
Alaska Airlines	57	57	—	26	31	—	—	—	—	—	—	—	—
Allegheny Commuter Airlines	7	—	—	—	—	7	—	7	—	—	—	—	—
Aloha Airlines	13	13	—	—	13	—	—	—	—	—	—	—	—
American Airlines	495	495	3	223	254	—	—	—	—	—	—	—	—
American Trans Air	20	20	—	20	—	—	—	—	—	—	—	—	—
American West Airlines	86	79	2	—	77	7	—	7	—	—	—	—	—
Amerijet International	8	8	—	8	—	—	—	—	—	—	—	—	—
Arrow Air	7	7	7	—	—	—	—	—	—	—	—	—	—
Aspen Airways dba United Express	14	4	4	—	—	10	—	10	—	—	—	—	—
Atlantic Southeast Airlines	4	—	—	—	—	4	4	—	—	—	—	—	—
Bar Harbor Airways	11	—	—	—	—	11	—	11	—	—	—	—	—
Basler Flight Service	3	—	—	—	—	—	—	—	3	—	—	3	—
Braniff	48	48	—	24	24	—	—	—	—	—	—	—	—
Britt Airways dba Continental Express	7	—	—	—	—	7	—	7	—	—	—	—	—
Buffalo Airways	4	4	4	—	—	—	—	—	—	—	—	—	—
Business Air	3	—	—	—	—	—	—	—	3	—	—	3	—
Business Express	18	—	—	—	—	18	—	18	—	—	—	—	—
Carnival Air Lines	3	3	—	3	—	—	—	—	—	—	—	—	—
CCair dba Piedmont Commuter	15	—	—	—	—	15	—	15	—	—	—	—	—
Chalk's Int'l. Airlines dba Paradise Island Airlines	3	—	—	—	—	3	3	—	—	—	—	—	—
Challenge Air Intl.	4	4	3	—	1	—	—	—	—	—	—	—	—
Chautauqua Airlines dba ASAir Express	2	—	—	—	—	2	—	2	—	—	—	—	—
Command Airway	12	—	—	—	—	12	—	12	—	—	—	—	—
Condor Aviation	1	—	—	—	—	—	—	—	1	—	—	1	—
Conner Airlines	3	1	1	—	—	—	—	—	2	2	—	—	—
Connie Kalitta Services dba American Int'l. Services	12	12	10	1	1	—	—	—	—	—	—	—	—
Continental Airlines	329	329	8	109	212	—	—	—	—	—	—	—	—
Delta Airlines	406	406	—	169	237	—	—	—	—	—	—	—	—
DHL Airways	9	9	—	9	—	—	—	—	—	—	—	—	—
Eastern Airlines	164	164	—	65	99	—	—	—	—	—	—	—	—
Emerald Air	5	5	—	—	5	—	—	—	—	—	—	—	—
Emery Worldwide Airlines	6	6	6	—	—	—	—	—	—	—	—	—	—
Empire Airlines	3	—	—	—	—	3	—	3	—	—	—	—	—
Enterprise Airlines	5	5	—	—	5	—	—	—	—	—	—	—	—
ERA Aviation	5	—	—	—	—	5	—	5	—	—	—	—	—
Evergreen Intl. Airlines	19	19	8	6	5	—	—	—	—	—	—	—	—
Executive Air Charter dba American Eagle	5	—	—	—	—	5	—	5	—	—	—	—	—
Express One Intl.	11	11	—	11	—	—	—	—	—	—	—	—	—
Fairway Corp.	1	—	—	—	—	1	—	1	—	—	—	—	—
Federal Express	154	154	27	127	—	—	—	—	—	—	—	—	—
Flamenco Airways	2	—	—	—	—	—	—	—	2	—	—	2	—
Florida Airmotive	2	—	—	—	—	—	—	—	2	—	—	2	—
Florida West Airlines	4	4	4	—	—	—	—	—	—	—	—	—	—

**TABLE 5.4—Continued**  
**TOTAL LARGE AIRCRAFT REPORTED IN OPERATION BY DOMESTIC, FLAG AND**  
**SUPPLEMENTAL/SCHEDULED**  
**CARGO AIR CARRIERS AND COMMERCIAL OPERATORS**  
**BY CARRIER, AND BY ENGINE TYPE**  
**1989**

Name of Carrier	Total All Aircraft	Turbojet				Turboprop			Piston				Rotary
		Total	4-eng.	3-eng.	2-eng.	Total	4-eng.	2-eng.	Total	4-eng.	3-eng.	2-eng.	Wing
Flying Tiger Line.....	10	—	—	—	—	3	—	3	7	—	—	7	—
Frontier Flying Service.....	1	—	—	—	—	—	—	—	1	—	—	1	—
Great American Airways.....	1	1	—	—	1	—	—	—	—	—	—	—	—
Gulf Air dba Transocean Airways ..	9	9	4	5	—	—	—	—	—	—	—	—	—
Hawaiian Airlines.....	31	23	6	5	12	8	8	—	—	—	—	—	—
Henson Aviation.....	38	—	—	—	—	38	5	33	—	—	—	—	—
Horizon Air.....	15	2	—	—	2	13	—	13	—	—	—	—	—
Imperial Aviation.....	2	—	—	—	—	2	—	2	—	—	—	—	—
Independent Air.....	2	2	2	—	—	—	—	—	—	—	—	—	—
Key Airlines.....	9	9	—	9	—	—	—	—	—	—	—	—	—
Kitty Hawk Air Cargo.....	7	—	—	—	—	—	—	—	7	—	—	7	—
Laredo Air.....	2	—	—	—	—	—	—	—	2	—	—	2	—
Lincoln Airlines.....	2	—	—	—	—	2	—	2	—	—	—	—	—
Markair.....	9	5	—	—	5	4	4	—	—	—	—	—	—
Mesaba Airlines.....	13	—	—	—	—	13	—	13	—	—	—	—	—
Metro Express dba Eastern Metro Express.....	8	—	—	—	—	8	—	8	—	—	—	—	—
MGM Grand Air.....	3	3	—	3	—	—	—	—	—	—	—	—	—
Mid Pacific Airlines.....	7	—	—	—	—	7	—	7	—	—	—	—	—
Midway Airlines.....	53	53	—	—	53	—	—	—	—	—	—	—	—
Midwest Express Airlines.....	10	10	—	—	10	—	—	—	—	—	—	—	—
Million Air.....	2	2	2	—	—	—	—	—	—	—	—	—	—
Mountain Air Cargo.....	6	—	—	—	—	6	—	6	—	—	—	—	—
Northern Air Cargo.....	11	—	—	—	—	—	—	—	11	11	—	—	—
Northwest Airlines.....	322	322	45	91	186	—	—	—	—	—	—	—	—
Orion Lift Service.....	26	26	1	25	—	—	—	—	—	—	—	—	—
Pan Am Express.....	22	—	—	—	—	22	12	10	—	—	—	—	—
Pan Am Shuttle.....	1	1	—	1	—	—	—	—	—	—	—	—	—
Pan American World Airways.....	157	157	34	88	35	—	—	—	—	—	—	—	—
Pennsylvania Commuter Airlines dba USAir Express.....	8	—	—	—	—	8	—	8	—	—	—	—	—
Presidential Airways dba United Express.....	7	5	4	—	1	2	—	2	—	—	—	—	—
Private Jet Expeditions.....	1	1	—	1	—	—	—	—	—	—	—	—	—
Reeve Aleutian Airways.....	7	2	—	2	—	5	3	2	—	—	—	—	—
Renown Aviation.....	6	—	—	—	—	1	—	1	5	—	—	5	—
Rhoades Aviation.....	1	—	—	—	—	—	—	—	1	—	—	1	—
Rich International Airways.....	2	2	2	—	—	—	—	—	—	—	—	—	—
Rocky Mountain Airways dba Continental Express.....	12	—	—	—	—	12	5	7	—	—	—	—	—
Rosenbalm Aviation.....	26	26	26	—	—	—	—	—	—	—	—	—	—
Ross Aviation.....	3	—	—	—	—	3	3	—	—	—	—	—	—
Ryan Int'l. Airlines.....	17	17	—	9	8	—	—	—	—	—	—	—	—
Salair.....	8	—	—	—	—	—	—	—	8	—	—	8	—
Scenic Airlines.....	6	6	—	6	—	—	—	—	—	—	—	—	—
Sierra Pacific Airlines.....	6	—	—	—	—	6	—	6	—	—	—	—	—
Simmons Airlines.....	47	—	—	—	—	47	—	47	—	—	—	—	—
Skyfreighters.....	3	—	—	—	—	—	—	—	3	—	—	3	—
SMB Stage Line.....	16	—	—	—	—	16	—	16	—	—	—	—	—
Southern Air Transport.....	31	14	14	—	—	17	17	—	—	—	—	—	—
Southwest Airlines.....	94	94	—	—	94	—	—	—	—	—	—	—	—
Southwind Airlines.....	1	—	—	—	—	—	—	—	1	—	—	1	—
Systems Intl. Airways.....	2	—	—	—	—	—	—	—	2	—	—	2	—
T P I Intl Airways.....	7	1	1	—	—	6	6	—	—	—	—	—	—
TEM Enterprises dba Casino Express.....	1	1	—	—	1	—	—	—	—	—	—	—	—
Tempelhof Airways USA.....	2	—	—	—	—	2	—	2	—	—	—	—	—
Tower Air.....	5	5	5	—	—	—	—	—	—	—	—	—	—

**TABLE 5.4—Continued**  
**TOTAL LARGE AIRCRAFT REPORTED IN OPERATION BY DOMESTIC, FLAG AND**  
**SUPPLEMENTAL/SCHEDULED**  
**CARGO AIR CARRIERS AND COMMERCIAL OPERATORS**  
**BY CARRIER, AND BY ENGINE TYPE**  
**1989**

Name of Carrier	Total All Aircraft	Turbojet				Turboprop				Piston			Rotary
		Total	4-eng.	3-eng.	2-eng.	Total	4-eng.	2-eng.	Total	4-eng.	3-eng.	2-eng.	Wing
Trans Air Link.....	6	—	—	—	—	—	—	—	6	6	—	—	—
Trans Continental Airlines.....	14	7	7	—	—	—	—	—	7	4	—	3	—
Trans Florida.....	3	—	—	—	—	—	—	—	3	—	—	3	—
Trans States Airlines dba Trans World Express.....	5	—	—	—	—	5	—	5	—	—	—	—	—
Trans World Airlines.....	215	215	19	104	92	—	—	—	—	—	—	—	—
Trump Shuttle.....	20	20	—	20	—	—	—	—	—	—	—	—	—
Twin Town Leasing.....	1	—	—	—	—	—	—	—	1	—	—	1	—
United Airlines.....	428	428	60	196	172	—	—	—	—	—	—	—	—
United Parcel Service.....	98	98	46	37	15	—	—	—	—	—	—	—	—
Universal Airlines.....	1	—	—	—	—	—	—	—	1	1	—	—	—
USAir.....	436	436	21	44	371	—	—	—	—	—	—	—	—
Viking Intl. Airlines.....	2	—	—	—	—	2	—	2	—	—	—	—	—
Westair Commuter dba United Express.....	11	6	6	—	—	5	—	5	—	—	—	—	—
Westates Airlines.....	3	—	—	—	—	3	—	3	—	—	—	—	—
World Airways.....	8	8	—	8	—	—	—	—	—	—	—	—	—
Wrangler Aviation.....	5	—	—	—	—	5	5	—	—	—	—	—	—
Zantop International Airlines.....	36	—	—	—	—	31	21	10	5	5	—	—	—

Source: Air Carrier Aircraft Utilization and Propulsion Reliability Report; Aviation Standards National Field Office, Federal Aviation Administration

Large aircraft—an aircraft with a seating capacity of more than 30 seats or a payload of more than 7,500 pounds.

**TABLE 5.5**  
**TOTAL SMALL AIRCRAFT REPORTED IN OPERATION**  
**BY COMMUTER AIR CARRIERS AND ON-DEMAND AIR TAXIS**  
**BY CARRIER, AND BY ENGINE TYPE**  
**1989**

Name of Carrier	Total All Aircraft	Turbojet				Turboprop			Piston				Rotary
		Total	4-eng.	3-eng.	2-eng.	Total	4-eng.	2-eng.	Total	4-eng.	3-eng.	2-eng.	Wing
<b>TOTAL</b>	<b>1,301</b>	<b>3</b>	—	—	<b>3</b>	<b>1,029</b>	—	<b>1,029</b>	<b>262</b>	—	<b>5</b>	<b>257</b>	<b>7</b>
40 Mile Air	1	—	—	—	—	—	—	—	1	—	—	1	—
Aero Coach International	32	—	—	—	—	—	—	—	32	—	—	32	—
Air Cape dba Nantucket Airlines	4	—	—	—	—	—	—	—	4	—	—	4	—
Air Carib Int'l	1	—	—	—	—	—	—	—	1	—	—	1	—
Air Midwest	43	—	—	—	—	43	—	43	—	—	—	—	—
Air Nevada Airlines	6	—	—	—	—	—	—	—	6	—	—	6	—
Air Sunshine	5	—	—	—	—	—	—	—	5	—	—	5	—
Air Vegas	18	—	—	—	—	—	—	—	18	—	—	18	—
Air Tour Acquisition dba Panorama Air Tour	8	—	—	—	—	—	—	—	8	—	—	8	—
Airways Int'l	9	—	—	—	—	—	—	—	9	—	—	9	—
Allegheny Commuter Airlines	6	—	—	—	—	6	—	6	—	—	—	—	—
Aloha Island Air	8	—	—	—	—	8	—	8	—	—	—	—	—
Alpha Air	1	—	—	—	—	1	—	1	—	—	—	—	—
Alpine Air	5	—	—	—	—	—	—	—	5	—	—	5	—
American Int'l. Resorts dba Air LA	3	—	—	—	—	2	—	2	1	—	—	1	—
Atlantic Southeast Airlines	48	—	—	—	—	48	—	48	—	—	—	—	—
Aviation Associates dba Sunaire	11	—	—	—	—	11	—	11	—	—	—	—	—
Baker Aviation	2	—	—	—	—	—	—	—	2	—	—	2	—
Baldwin, Daniel dba Wrangell Air Service	1	—	—	—	—	—	—	—	1	—	—	1	—
Bar Harbor Airways	37	—	—	—	—	37	—	37	—	—	—	—	—
Bemidji Aviation Services	3	—	—	—	—	—	—	—	3	—	—	3	—
Bering Air	8	—	—	—	—	—	—	—	8	—	—	8	—
Big Sky Transportation Co.	6	—	—	—	—	3	—	3	3	—	—	3	—
Britt Airways	25	—	—	—	—	25	—	25	—	—	—	—	—
Business Air	7	—	—	—	—	—	—	—	7	—	—	7	—
Business Express	23	—	—	—	—	23	—	23	—	—	—	—	—
Cape Smythe Air Service	9	—	—	—	—	3	—	3	6	—	—	6	—
CCair dba Piedmont Commuter	15	—	—	—	—	15	—	15	—	—	—	—	—
Chalks Int'l. Airlines dba Paradise Island Airlines	2	—	—	—	—	2	—	2	—	—	—	—	—
Champlain Enterprises dba Commutair	3	—	—	—	—	3	—	3	—	—	—	—	—
Chaparral Air Service dba American Eagle	16	—	—	—	—	16	—	16	—	—	—	—	—
Chartair	2	—	—	—	—	—	—	—	2	—	—	2	—
Chautauqua Airlines dba USAir Express	10	—	—	—	—	10	—	10	—	—	—	—	—
Christman Air Systems	2	—	—	—	—	2	—	2	—	—	—	—	—
Coastal Airlines dba National Air	2	—	—	—	—	2	—	2	—	—	—	—	—
Comair	63	—	—	—	—	63	—	63	—	—	—	—	—
Command Airways	8	—	—	—	—	8	—	8	—	—	—	—	—
Conquest Airlines Corp	17	—	—	—	—	17	—	17	—	—	—	—	—
Crown Airways dba USAir Express	8	—	—	—	—	8	—	8	—	—	—	—	—
DHL Airways	12	1	—	—	1	10	—	10	—	—	—	—	1
Direct Air	1	—	—	—	—	—	—	—	1	—	—	1	—
East Hampton Aire	4	—	—	—	—	3	—	3	1	—	—	1	—
Empire Airlines	3	—	—	—	—	3	—	3	—	—	—	—	—
ERA Aviation	8	—	—	—	—	8	—	8	—	—	—	—	—
Exec Express II	11	—	—	—	—	—	—	—	11	—	—	11	—
Executive Air Charter dba American Eagle	10	—	—	—	—	10	—	10	—	—	—	—	—
Express Airlines I dba Northwest Air Link	38	—	—	—	—	38	—	38	—	—	—	—	—
Fairways	1	—	—	—	—	1	—	1	—	—	—	—	—
Far West Airlines	1	—	—	—	—	—	—	—	1	—	—	1	—

**TABLE 5.5—Continued**  
**TOTAL SMALL AIRCRAFT REPORTED IN OPERATION**  
**BY COMMUTER AIR CARRIERS AND ON-DEMAND AIR TAXIS**  
**BY CARRIER, AND BY ENGINE TYPE**  
**1989**

Name of Carrier	Total All Aircraft	Turbojet				Turboprop			Piston				Rotary
		Total	4-eng.	3-eng.	2-eng.	Total	4-eng.	2-eng.	Total	4-eng.	3-eng.	2-eng.	Wing
Flamenco Airways.....	5	—	—	—	—	—	—	—	5	—	1	4	—
Frontier Flying Service.....	8	—	—	—	—	3	—	3	5	—	—	5	—
Golden Pacific Airlines.....	2	—	—	—	—	2	—	2	—	—	—	—	—
Grand Airways.....	14	—	—	—	—	—	—	—	14	—	—	14	—
Grand Canyon.....	3	—	—	—	—	3	—	3	—	—	—	—	—
Great Lakes Aviation.....	8	—	—	—	—	8	—	8	—	—	—	—	—
Haines Airways.....	1	—	—	—	—	—	—	—	1	—	—	1	—
Harbor Airlines.....	3	—	—	—	—	—	—	—	3	—	—	3	—
Helitrans Air Service.....	2	—	—	—	—	—	—	—	—	—	—	—	2
Hermens Markair Express dba MArkair ExpressAir.....	5	—	—	—	—	5	—	5	—	—	—	—	—
Holiday Airways.....	2	—	—	—	—	—	—	—	2	—	—	2	—
Horizon Air dba Manhattan Express Airlines.....	8	—	—	—	—	8	—	8	—	—	—	—	—
Horizon Air.....	31	—	—	—	—	31	—	31	—	—	—	—	—
Imperial Aviation.....	1	—	—	—	—	—	—	—	1	—	—	1	—
Iowa Airways.....	5	—	—	—	—	5	—	5	—	—	—	—	—
Jet Express dba Trans World Express.....	3	—	—	—	—	3	—	3	—	—	—	—	—
Jetstream Intl. Airlines.....	31	—	—	—	—	31	—	31	—	—	—	—	—
JIB dba Action Air Charters.....	4	—	—	—	—	—	—	—	4	—	—	5	—
L A B Flying Service.....	6	—	—	—	—	—	—	—	6	—	—	6	—
Lake Union Air Service.....	1	—	—	—	—	1	—	1	—	—	—	—	—
Larry's Flying Service.....	7	—	—	—	—	—	—	—	6	—	—	6	—
Las Vegas Airlines.....	5	—	—	—	—	—	—	—	5	—	—	5	—
L'Express.....	8	—	—	—	—	8	—	8	—	—	—	—	—
Mall Airways.....	2	—	—	—	—	2	—	2	—	—	—	—	—
Merlin Express.....	10	—	—	—	—	10	—	10	—	—	—	—	—
Mesa Airlines.....	24	—	—	—	—	24	—	24	—	—	—	—	—
Mesaba Airlines.....	16	—	—	—	—	16	—	16	—	—	—	—	—
Metro Air Northeast, VT dba Trans World Express.....	10	—	—	—	—	10	—	10	—	—	—	—	—
Metro Air Northeast, dba Trans World Express.....	11	—	—	—	—	11	—	11	—	—	—	—	—
Metro Express dba Eastern Metro Express.....	22	—	—	—	—	22	—	22	—	—	—	—	—
Metro Express II dba Starlight Express.....	7	—	—	—	—	7	—	7	—	—	—	—	—
Metroflight dba American Eagle.....	19	—	—	—	—	19	—	19	—	—	—	—	—
Midway Airline 1987.....	21	—	—	—	—	21	—	21	—	—	—	—	—
Midwest Aviation Division of Southwest Aviation.....	3	—	—	—	—	—	—	—	3	—	—	3	—
Montauk Caribbean Airways dba Long Island Airlines.....	10	1	—	—	1	2	—	2	7	—	—	7	—
Nashville Eagle dba American Eagle.....	46	—	—	—	—	46	—	46	—	—	—	—	—
New England Airlines.....	3	—	—	—	—	—	—	—	3	—	—	3	—
New York Helicopter Corp.....	4	—	—	—	—	—	—	—	—	—	—	—	4
Nicholson Air Service dba Cumberland Airlines.....	6	—	—	—	—	—	—	—	6	—	—	6	—
NPA dba United Express.....	25	—	—	—	—	25	—	25	—	—	—	—	—
Olson Air Service.....	1	—	—	—	—	—	—	—	1	—	—	1	—
Pearson Aviation dba PAC Air.....	2	—	—	—	—	—	—	—	2	—	—	2	—
Peninsula Airways.....	8	—	—	—	—	8	—	8	—	—	—	—	—
Pennsylvania Aviation dba Wings Airways.....	6	—	—	—	—	1	—	1	5	—	2	3	—
Pennsylvania Commuter Airlines dba USAir Express.....	11	—	—	—	—	11	—	11	—	—	—	—	—
Pocono Airlines dba TW Express.....	11	—	—	—	—	11	—	11	—	—	—	—	—
Precision Airlines.....	13	—	—	—	—	13	—	13	—	—	—	—	—

**TABLE 5.5—Continued**  
**TOTAL SMALL AIRCRAFT REPORTED IN OPERATION**  
**BY COMMUTER AIR CARRIERS AND ON-DEMAND AIR TAXIS**  
**BY CARRIER, AND BY ENGINE TYPE**  
**1989**

Name of Carrier	Total All Aircraft	Turbojet				Turboprop			Piston				Rotary
		Total	4-eng.	3-eng.	2-eng.	Total	4-eng.	2-eng.	Total	4-eng.	3-eng.	2-eng.	Wing
Presidential Airways dba United Express.....	13	—	—	—	—	13	—	13	—	—	—	—	—
Propheter Construction Co.....	3	—	—	—	—	—	—	—	3	—	—	3	—
Resort Commuter dba Pan Am Commuter.....	2	—	—	—	—	2	—	2	—	—	—	—	—
Rocky Mountain Airways dba Continental Express.....	10	—	—	—	—	10	—	10	—	—	—	—	—
Ross Aviation.....	1	—	—	—	—	1	—	1	—	—	—	—	—
Ryan Air Service.....	5	—	—	—	—	—	—	—	5	—	—	5	—
Samoa Air.....	2	—	—	—	—	2	—	2	—	—	—	—	—
Scenic Airlines.....	17	—	—	—	—	17	—	17	—	—	—	—	—
Skagway Air Service.....	1	—	—	—	—	—	—	—	1	—	—	1	—
Skywest Airlines.....	46	—	—	—	—	46	—	46	—	—	—	—	—
Southcentral Air.....	11	—	—	—	—	7	—	7	4	—	—	4	—
Southern Jersey Airways dba Eastern Express.....	2	—	—	—	—	2	—	2	—	—	—	—	—
Stateswest Airlines.....	4	—	—	—	—	4	—	4	—	—	—	—	—
Summit Aviation.....	1	—	—	—	—	1	—	1	—	—	—	—	—
Templehof Airways USA.....	4	1	—	—	1	3	—	3	—	—	—	—	—
Temsco Helicopters.....	1	—	—	—	—	—	—	—	1	—	—	1	—
Texas National Airlines.....	5	—	—	—	—	5	—	5	—	—	—	—	—
Trans States Airlines dba Trans World Express.....	13	—	—	—	—	13	—	13	—	—	—	—	—
Valley Airlines.....	11	—	—	—	—	6	—	6	5	—	—	5	—
Vieques Air Link.....	6	—	—	—	—	—	—	—	6	—	2	4	—
Virgin Air dba Air St Thomas.....	7	—	—	—	—	—	—	—	7	—	—	7	—
Virgin Island Seaplane Shuttle.....	7	—	—	—	—	5	—	5	2	—	—	2	—
Walker's Aviation.....	2	—	—	—	—	1	—	1	1	—	—	1	—
Westair Commuter dba United Express.....	59	—	—	—	—	59	—	59	—	—	—	—	—
Wilburs.....	4	—	—	—	—	1	—	1	3	—	—	3	—
Wings West dba American Eagle.....	32	—	—	—	—	32	—	32	—	—	—	—	—
WRA.....	1	—	—	—	—	1	—	1	—	—	—	—	—
Wright Air Service.....	4	—	—	—	—	—	—	—	4	—	—	4	—
Unknown.....	7	—	—	—	—	2	—	2	5	—	—	5	—

Source: Air Carrier Aircraft Utilization and Propulsion Reliability Report; Aviation Standards National Field Office, Federal Aviation Administration.

Small aircraft—an aircraft with a seating capacity of 30 seats or less or a payload of 7,500 pounds or less.

## VI. U.S. CERTIFICATED AIR CARRIERS—OPERATING DATA

The traffic and financial data contained in this chapter include data for all U.S. Certificated Air Carriers—those holding a certificate issued under Section 401 of the Federal Aviation Act of 1958; and the commuter air carriers—those holding a certificate under Section 298C of the Federal Aviation Act of 1958.

The data are classified in two broad operational categories: "domestic" and "international". Beginning January 1, 1981, "domestic" encompasses operations within and between the 50 states of the United States, the District of Columbia, the Commonwealth of Puerto Rico and the Virgin Islands. It also encompasses Canadian transborder operations and for certain carriers, Mexican transborder operations. All other categories are considered "international". For periods prior to January 1, 1981, the data are classified in this same manner, except statistics for Puerto Rico and Virgin Islands operations are included in the international category rather than the domestic.

The certificated carriers are also grouped into "large" and "small" according to the size aircraft that the carrier operates. A "large" carrier is one that operates aircraft designed to have a maximum passenger seating capacity of 60 seats or more or a maximum payload capacity of 18,000 pounds or more, or conducts international operations. A "small" certificated carrier operates aircraft of less than 60 seats or a payload capacity of less than 18,000. The commuter carriers are grouped with the small certificated carriers.

The large certificated air carriers, beginning in 1981, were grouped according to their total operating revenue as listed below:

Carrier Groups	Carriers with Annual Operating Revenues of:
Major .....	\$1,000,000,000 +
Nationals .....	\$100,000,000 - \$1,000,000,000
Large Regionals .....	\$10,000,000 - \$99,999,999
Medium Regionals.....	0 - \$9,999,999

The tables in this chapter are divided into two groups: 6.1-6.15 cover the large carriers and 6.16-6.18 cover the small commuter and large certificated medium regional carriers. Please note that some large certificated medium regional carriers are included in both groups of tables. The information for the large air carriers was obtained from the following sources published by the Research & Special Programs Administration of the Department of Transportation.

*Air Carrier Traffic Statistics* compiled from RSPA Form 41 Schedules T-1(a), T-1(b) and T-1(c).

*Air Carrier Financial Statistics* compiled from RSPA Form 41 Schedules B-1 and P-1.

The information for the small certificated, commuter and large certificated medium regional carriers was obtained from:

*Air Carrier Industry Scheduled Service Traffic Statistics: Medium Regional Section:* compiled from RSPA Form 298C Schedules A-1 and T-1.

**TABLE 6.1**  
**LARGE CERTIFICATED AIR CARRIERS**  
**1988 AND 1989**

**MAJORS**

American	Northwest
Continental	Pan American
Delta	Piedmont
Eastern	Trans World
Federal Express	United
Flying Tiger	US Air

**NATIONALS**

Air Wisconsin	Midway
Alaska	Pacific Southwest
Aloha	Southern Air
American Trans Air	Southwest
American West	Tower
Braniff	Trump Shuttle
Evergreen	United Parcel Service
Hawaiian	World
Horizon Air	Zantop

**LARGE REGIONALS**

Air America	Markair
Amerijet	MGM Grand
Arrow	Midwest Express
Aspen	Northern Air
Challenge Air Cargo	Orion
Connie Kalitta	Presidential
Emerald	Reeve
Express One	Rich
Five Star	Rosenbalm
Florida Express	Skyworld
Gulf Air Transport	Sun Country
International Air Service	Sunworld
InterState	Trans International
Key	West Air

**MEDIUM REGIONALS**

Aerial	Great American
Aeron	Independent Air
Air Transport Int'l	Jet Fleet
Buffalo	Millon
Casino Express	Pacific Interstate
Conner	Trans Air Link
Florida West	Trans Continental



**TABLE 6.2**  
**TRAFFIC DATA, ALL SERVICES (SCHEDULED AND NONSCHEDULED)**  
**OF THE LARGE CERTIFICATED AIR CARRIERS**  
**1988 AND 1989**

Traffic Category	Total System <sup>1</sup>		Domestic Operations		International Operations	
	1988 <sup>2</sup>	1989 <sup>3</sup>	1988 <sup>2</sup>	1989 <sup>3</sup>	1988 <sup>2</sup>	1989 <sup>3</sup>
Revenue Passenger Miles Flown (000) .....	437,648,540	447,402,696	334,290,574	335,144,722	103,357,966	112,257,974
Available Seat Miles (000) .....	696,337,391	703,787,899	544,736,255	537,049,106	151,601,136	166,738,793
Revenue Passenger Enplanements (000) .....	463,220	463,454	423,864	421,241	39,356	42,213
Revenue Ton Miles Flown (000) <sup>1</sup> .....	58,398,186	61,073,778	41,598,662	42,456,752	16,798,524	18,617,026
Passenger .....	43,764,877	44,740,297	33,429,198	33,514,534	10,335,679	11,225,763
Freight .....	12,795,334	14,422,046	6,802,409	7,526,878	5,992,925	6,895,168
U.S. Mail .....	1,809,959	1,878,590	1,366,521	1,414,689	443,438	463,901
Foreign Mail .....	27,015	32,844	534	651	26,481	32,193
Revenue Aircraft Miles Flown (000) .....	4,353,512	4,441,142	3,738,242	3,747,446	615,270	693,696

<sup>1</sup> Details may not add to total due to rounding.

<sup>2</sup> Revised

<sup>3</sup> Preliminary

Source: "Air Carrier Traffic Statistics"—RSPA

**TABLE 6.3**  
**REVENUE AIRCRAFT DEPARTURES, MILES AND HOURS FLOWN,**  
**AND AVERAGE SPEED IN DOMESTIC ALL SERVICES**  
**OF THE LARGE CERTIFICATED AIR CARRIERS**  
**1980-1989**

Year	Revenue Aircraft Departures	Revenue Aircraft Miles Flown (000)	Revenue Aircraft Hours Flown	Average Airborne Speed (Miles Per Hour)
1980 .....	5,222,879	2,523,375	6,247,795	404
1981 .....	5,099,380	2,442,294	6,080,401	402
1982 .....	4,860,482	2,442,292	5,962,431	410
1983 .....	4,920,125	2,552,942	6,174,957	413
1984 .....	5,358,454	2,875,402	6,970,886	412
1985 .....	5,760,232	3,046,440	7,457,030	409
1986 .....	6,336,150	3,421,492	8,223,615	416
1987 .....	6,511,609	3,652,542	8,823,269	414
1988 <sup>1</sup> .....	6,607,067	3,738,242	9,135,430	409
1989 <sup>2</sup> .....	6,527,132	3,747,446	9,220,711	406

<sup>1</sup> Revised.

<sup>2</sup> Preliminary.

Source: "Air Carrier Traffic Statistics"—RSPA

**TABLE 6.4**  
**REVENUE AIRCRAFT DEPARTURES, MILES AND HOURS FLOWN,**  
**AND AVERAGE SPEED IN INTERNATIONAL ALL SERVICES**  
**OF THE LARGE CERTIFICATED AIR CARRIERS**  
**1980-1989**

Year	Revenue Aircraft Departures	Revenue Aircraft Miles Flown (000)	Revenue Aircraft Hours Flown	Average Airborne Speed (Miles Per Hour)
1980 .....	256,415	400,791	819,518	489
1981 .....	229,661	356,270	729,827	488
1982 .....	233,726	362,183	739,820	490
1983 .....	243,029	362,994	740,896	490
1984 .....	241,087	388,794	792,267	491
1985 .....	244,888	415,355	846,197	491
1986 .....	271,735	451,338	923,641	489
1987 .....	311,411	529,786	1,082,189	490
1988 <sup>1</sup> .....	354,463	615,270	1,260,927	488
1989 <sup>2</sup> .....	396,340	693,696	1,425,897	486

<sup>1</sup> Revised.

<sup>2</sup> Preliminary.

Source: "Air Carrier Traffic Statistics"—RSPA

**TABLE 6.5**  
**TOTAL TON-MILES AVAILABLE IN ALL SERVICES OF THE**  
**LARGE CERTIFICATED AIR CARRIERS**  
**1980-1989**  
(Thousands of Ton-Miles)

Year	Large Certificated Air Carriers		
	Total System <sup>1</sup>	Domestic Operations	International Operations
1980 .....	66,162,896	49,396,481	16,763,237
1981 .....	64,244,767	48,669,968	15,574,092
1982 .....	65,769,930	49,757,601	16,012,329
1983 .....	68,778,295	52,724,653	15,920,720
1984 .....	76,298,288	58,942,974	17,355,314
1985 .....	80,565,182	61,337,807	19,227,375
1986 .....	90,243,958	69,771,737	20,472,221
1987 .....	99,152,795	75,741,397	23,411,398
1988 <sup>2</sup> .....	105,272,555	78,264,976	27,107,579
1989 <sup>3</sup> .....	109,360,431	78,922,498	30,437,933

<sup>1</sup> Categories may not add to total due to rounding.

<sup>2</sup> Revised.

<sup>3</sup> Preliminary.

Source: "Air Carrier Traffic Statistics"—RSPA

**TABLE 6.6**  
**REVENUE TON-MILES FLOWN IN ALL SERVICES BY**  
**LARGE CERTIFICATED AIR CARRIERS**  
**1980-1989**  
(Thousands of Tons)

Year	Large Certificated Air Carriers		
	Total System <sup>1</sup>	Domestic Operations	International Operations
1980 .....	34,655,519	24,964,909	9,689,068
1981 .....	33,923,495	24,801,224	9,122,094
1982 .....	35,050,938	25,838,708	9,212,230
1983 .....	38,011,227	28,271,465	9,624,208
1984 .....	41,277,948	30,561,436	10,716,512
1985 .....	44,154,779	32,939,216	11,215,563
1986 .....	48,883,854	37,148,059	11,735,795
1987 .....	54,917,632	40,509,782	14,407,850
1988 <sup>2</sup> .....	58,397,186	41,598,662	16,798,524
1989 <sup>3</sup> .....	61,073,431	42,456,752	18,617,026

<sup>1</sup> Categories may not add to total due to rounding.

<sup>2</sup> Revised.

<sup>3</sup> Preliminary.

Source: "Air Carrier Traffic Statistics"—RSPA

**TABLE 6.7**  
**PASSENGER OPERATIONS IN SCHEDULED DOMESTIC OPERATIONS**  
**OF THE LARGE CERTIFICATED AIR CARRIERS**  
**1980-1989**

Year	Revenue Passenger Enplanements (000)	Revenue Passenger Miles (000)	Available Seat-Miles (000)	Revenue Passenger Load Factor <sup>1</sup> Percent	Average On-line Passenger Trip Length (Miles)	Average Passenger Revenue Per Passenger Miles (Cents)
1980 .....	272,829	200,829,303	346,028,272	58.0	736	11.49
1981 .....	265,304	198,714,755	346,171,952	57.4	749	12.74
1982 .....	274,342	210,149,315	359,527,716	58.5	766	12.21
1983 .....	296,721	226,908,925	379,150,158	59.8	765	12.13
1984 .....	321,047	243,692,254	422,506,609	57.7	759	12.79
1985 .....	357,109	270,584,011	445,825,864	60.7	758	12.32
1986 .....	393,864	302,089,903	497,990,815	60.7	767	11.18
1987 .....	416,831	324,637,336	526,958,361	61.6	779	11.42
1988 <sup>2</sup> .....	419,210	329,309,489	536,662,591	61.4	786	12.31
1989 <sup>3</sup> .....	416,331	329,975,206	530,079,041	62.3	792	13.06

<sup>1</sup> Percent revenue passenger-miles of available seat-miles.

<sup>2</sup> Revised.

<sup>3</sup> Preliminary.

Source: "Air Carrier Traffic Statistics"—RSPA

**TABLE 6.8**  
**PASSENGER OPERATIONS IN SCHEDULED INTERNATIONAL OPERATIONS**  
**OF THE LARGE CERTIFICATED AIR CARRIERS**  
**1980-1989**

Year	Revenue Passenger Enplanements (000)	Revenue Passenger Miles (000)	Available Seat-Miles (000)	Revenue Passenger Load Factor <sup>1</sup> Percent	Average On-line Passenger Trip Length (Miles)	Average Passenger Revenue Per Passenger Miles (Cents)
1980 .....	24,074	54,362,811	86,506,831	62.8	2,258	8.78
1981 .....	20,672	50,173,046	78,725,278	63.7	2,427	9.46
1982 .....	19,760	49,494,555	80,591,490	61.4	2,505	9.57
1983 .....	21,917	54,920,223	85,387,821	64.3	2,506	10.21
1984 .....	23,636	61,423,601	92,816,730	66.2	2,599	9.38
1985 .....	24,913	65,819,010	101,962,568	64.6	2,642	9.80
1986 .....	25,082	64,455,952	109,445,032	58.9	2,570	10.16
1987 .....	30,847	79,834,148	121,762,577	65.6	2,588	9.82
1988 <sup>2</sup> .....	35,404	93,992,070	140,139,737	67.1	2,655	10.40
1989 <sup>3</sup> .....	37,361	102,739,103	154,296,835	66.6	2,750	10.36

<sup>1</sup> Percent revenue passenger-miles of available seat-miles.

<sup>2</sup> Revised.

<sup>3</sup> Preliminary.

Source: "Air Carrier Traffic Statistics"—RSPA

**TABLE 6.9**  
**REVENUE AIRCRAFT-MILES FLOWN IN ALL SERVICES**  
**OF LARGE CERTIFICATED AIR CARRIERS**  
**1980-1989**  
(Thousands of Miles)

Year	Total <sup>1</sup>	Domestic Operations	International Operations
1980.....	2,924,234	2,523,375	400,791
1981.....	2,703,219	2,442,294	356,270
1982.....	2,804,475	2,442,292	362,183
1983.....	2,922,583	2,552,942	362,994
1984.....	3,264,196	2,875,402	388,794
1985.....	3,461,795	3,046,440	415,355
1986.....	3,872,830	3,421,492	451,338
1987.....	4,182,327	3,652,542	529,786
1988 <sup>2</sup> .....	4,353,512	3,738,242	615,270
1989 <sup>3</sup> .....	4,441,142	3,747,446	693,696

<sup>1</sup> Details may not add to total due to rounding.

<sup>2</sup> Revised

<sup>3</sup> Preliminary

Source: "Air Carrier Traffic Statistics"—RSPA

**TABLE 6.10**  
**OPERATING REVENUE OF DOMESTIC OPERATIONS, ALL SERVICES**  
**LARGE CERTIFICATED AIR CARRIERS**  
**MAJOR, NATIONAL, AND LARGE REGIONAL GROUPS**  
**1980-1989**  
(Thousands of Dollars)

Year	Total Operating Revenues <sup>1</sup>		Passenger		U.S. Mail (Including Subsidy)		Express and Freight		Excess Baggage		Other	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
1980.....	26,403,576	100.0	23,081,487	87.4	529,572	2.0	1,552,836	5.9	32,168	0.1	1,207,184	4.6
1981.....	28,787,566	100.0	25,504,233	88.6	590,746	2.1	1,659,182	5.8	36,101	0.1	997,305	3.4
1982.....	28,727,699	100.0	25,439,640	88.6	571,822	2.0	1,505,035	5.2	42,045	0.1	1,169,148	4.1
1983.....	31,014,393	100.0	27,519,079	88.7	537,234	1.7	1,601,895	5.2	51,967	0.2	1,304,221	4.2
1984.....	35,393,945	100.0	31,436,951	88.8	559,138	1.6	1,715,979	4.8	70,032	0.2	1,611,842	4.6
1985.....	37,628,540	100.0	33,343,005	88.6	740,384	1.9	1,580,914	4.2	78,113	0.2	1,886,123	5.0
1986.....	41,000,506	100.0	33,813,923	82.5	682,643	1.7	4,278,008	10.4	85,438	0.2	2,140,496	5.2
1987.....	45,657,800	100.0	37,492,065	82.2	706,178	1.5	4,951,924	10.9	66,756	0.1	2,440,877	5.3
1988 <sup>2</sup> .....	50,187,181	100.0	41,001,573	81.7	791,929	1.6	5,807,058	11.6	71,781	0.1	2,514,841	5.0
1989 <sup>3</sup> .....	50,071,056	100.0	43,599,907	80.7	770,171	1.4	6,932,251	12.8	69,561	0.1	2,699,166	5.0

<sup>1</sup> Details may not add to total due to rounding.

<sup>2</sup> Revised

<sup>3</sup> Preliminary

NOTE: 1980-1981 include financial statistics for medium regionals; data for 1982 and after shown separately on Table 6.14.

Source: "Air Carrier Financial Statistics", Table 1—RSPA

**TABLE 6.11**  
**OPERATING EXPENSES OF DOMESTIC OPERATIONS, ALL SERVICES**  
**LARGE CERTIFICATED AIR CARRIERS**  
**MAJOR, NATIONAL, AND LARGE REGIONAL GROUPS**  
**1980-1989**  
(Thousands of Dollars)

Year	Total Operating Expenses <sup>1</sup>		Aircraft Operating Expenses						Ground and Indirect Expense		Net Operating Income or Loss Amount
	Amount	Percent	Flight Operations		Maintenance		Depreciation and Amortization		Amount	Percent	
			Amount	Percent	Amount	Percent	Amount	Percent			
1980.....	26,409,238	100.0	11,029,423	41.8	2,757,663	10.4	1,560,312	5.9	11,061,841	41.9	-5,662
1981.....	29,051,130	100.0	12,036,704	41.4	2,821,933	9.7	1,723,406	5.9	12,469,087	42.9	-263,564
1982.....	29,478,115	100.0	11,529,364	39.1	2,709,440	9.2	1,876,106	6.4	13,363,206	45.3	-750,416
1983.....	31,185,661	100.0	11,370,479	36.5	2,877,991	9.2	2,107,283	6.8	14,829,909	47.6	-171,268
1984.....	33,811,742	100.0	12,160,526	36.0	3,175,865	9.4	2,223,275	6.6	16,252,075	48.1	1,582,203
1985.....	36,610,744	100.0	12,684,018	34.7	3,604,447	9.8	2,318,066	6.3	18,004,213	49.2	1,017,796
1986.....	39,934,036	100.0	11,368,346	28.5	4,475,473	11.2	2,652,497	6.6	21,437,719	53.7	1,066,470
1987.....	43,925,149	100.0	12,508,716	28.5	4,950,558	11.3	2,854,806	6.5	23,611,068	53.7	1,732,650
1988 <sup>2</sup> .....	47,738,808	100.0	13,175,525	27.6	5,642,790	11.8	2,977,236	6.2	25,943,257	54.4	2,448,873
1989 <sup>3</sup> .....	52,260,462	100.0	14,661,067	28.1	6,166,308	11.8	3,152,771	6.0	28,280,315	54.1	1,810,095

<sup>1</sup> Details may not add to total due to rounding.

<sup>2</sup> Revised

<sup>3</sup> Preliminary

NOTE: 1980-1981 include financial statistics for medium regionals; data for 1982 and after shown separately on Table 6.14.

Source: "Air Carrier Financial Statistics", Table 1—RSPA

**TABLE 6.12**  
**OPERATING REVENUE OF INTERNATIONAL OPERATIONS, ALL SERVICES**  
**LARGE CERTIFICATED AIR CARRIERS**  
**MAJOR, NATIONAL, AND LARGE REGIONAL GROUPS**  
**1980-1989**  
(Thousands of Dollars)

Year	Total Operating Revenues <sup>1</sup>		Passenger		U.S. Mail (Including Subsidy)		Express and Freight		Excess Baggage		Other	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
1980.....	6,543,033	100.0	4,777,026	73.0	163,204	2.5	875,682	13.4	24,749	0.4	702,372	10.7
1981.....	6,390,140	100.0	4,916,469	77.0	165,467	2.6	984,474	15.4	24,654	0.4	299,075	4.7
1982.....	6,434,904	100.0	4,959,347	77.1	176,930	2.8	989,620	15.4	25,358	0.4	283,448	4.4
1983.....	7,163,275	100.0	5,604,902	78.2	152,455	2.1	999,405	14.0	23,012	0.3	383,502	5.4
1984.....	7,974,706	100.0	6,074,406	76.2	157,703	2.0	1,169,259	14.8	27,447	0.3	545,892	6.8
1985.....	8,302,279	100.0	6,451,324	77.7	160,543	1.9	1,130,050	13.6	27,832	0.3	531,528	6.4
1986.....	8,621,149	100.0	6,550,550	76.0	153,627	1.8	1,451,488	16.8	28,254	0.3	437,231	5.1
1987.....	10,924,837	100.0	8,374,295	76.7	180,052	1.6	1,782,832	16.3	32,688	0.3	554,971	5.1
1988 <sup>2</sup> .....	13,401,710	100.0	10,356,637	77.3	183,251	1.4	2,150,132	16.0	39,285	0.3	672,405	5.0
1989 <sup>3</sup> .....	15,076,139	100.0	11,181,033	74.4	188,284	1.2	2,826,868	18.6	46,759	0.3	833,198	5.5

<sup>1</sup>Details may not add to total due to rounding.

<sup>2</sup> Revised

<sup>3</sup> Preliminary

NOTE: 1980-1981 include financial statistics for medium regionals; data for 1982 and after shown separately on Table 6.14

Source: "Air Carrier Financial Statistics", Table 1—RSPA

**TABLE 6.13**  
**OPERATING EXPENSES OF INTERNATIONAL OPERATIONS, ALL SERVICES**  
**LARGE CERTIFICATED AIR CARRIERS**  
**MAJOR, NATIONAL, AND LARGE REGIONAL GROUPS**  
**1980-1989**  
(Thousands of Dollars)

Year	Total Operating Expenses <sup>1</sup>		Aircraft Operating Expenses						Ground and Indirect Expense		Net Operating Income or Loss Amount
	Amount	Percent	Flight Operations		Maintenance		Depreciation and Amortization		Amount	Percent	
			Amount	Percent	Amount	Percent	Amount	Percent			
1980	6,765,623	100.0	2,775,331	41.0	615,982	9.1	385,396	5.7	2,988,914	44.2	-222,590
1981	6,574,441	100.0	2,756,877	42.0	539,605	8.2	382,367	5.9	2,895,591	44.0	-184,300
1982	6,451,807	100.0	2,596,134	40.2	511,795	7.9	396,159	6.1	2,947,719	45.7	-17,103
1983	6,692,776	100.0	2,490,076	37.2	547,741	8.2	388,708	5.8	3,266,252	48.8	470,499
1984	7,484,679	100.0	2,628,664	35.1	676,950	9.0	445,857	6.0	3,733,028	49.9	490,028
1985	7,983,705	100.0	2,738,439	34.4	768,018	9.6	481,560	6.0	3,995,687	50.0	318,574
1986	8,458,084	100.0	2,401,911	28.4	900,784	10.7	517,524	6.1	4,637,866	54.8	163,066
1987	10,226,388	100.0	2,836,095	27.7	1,095,635	10.7	533,079	5.2	5,761,579	56.4	698,450
1988 <sup>2</sup>	12,403,323	100.0	3,230,335	26.1	1,331,687	10.7	617,734	5.0	7,223,567	58.2	998,388
1989 <sup>3</sup>	15,019,328	100.0	3,992,281	26.6	1,776,506	11.8	742,727	4.9	8,507,813	56.7	56,812

<sup>1</sup>Details may not add to total due to rounding.

<sup>2</sup> Revised

<sup>3</sup> Preliminary

NOTE: 1980-1981 include financial statistics for medium regionals; data for 1982 and after shown separately on Table 6.15

Source: "Air Carrier Financial Statistics", Table 1—RSPA

**TABLE 6.14**  
**OPERATING REVENUE, SYSTEM, ALL SERVICES**  
**LARGE CERTIFICATED AIR CARRIERS**  
**MEDIUM REGIONAL GROUP**  
**1982-1989**  
(Thousands of Dollars)

Year	Total Operating Revenues <sup>1</sup>		Scheduled Passenger		Scheduled Other		Non-Scheduled Service		Subsidy		Other Transport Related	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
1982	448,159	100.0	154,261	34.5	39,690	8.9	207,558	46.3	6,030	1.3	40,259	9.0
1983	108,082	100.0	19,126	17.7	9,897	9.2	73,469	68.0	2,132	2.0	3,457	3.2
1984	159,837	100.0	61,966	38.8	7,063	4.4	83,249	52.1	1,561	1.0	5,998	3.7
1985	150,754	100.0	38,045	25.2	13,467	12.9	89,863	59.6	0	0.0	3,379	2.2
1986	81,971	100.0	10,576	12.9	43	0.0	61,729	75.4	0	0.0	9,624	11.7
1987	114,593	100.0	6,845	6.0	4,521	3.9	85,406	74.5	0	0.0	17,821	15.6
1988 <sup>2</sup>	70,035	100.0	0	0.0	716	1.1	65,850	94.0	0	0.0	3,470	5.0
1989 <sup>3</sup>	129,505	100.0	5,773	4.5	7,494	5.8	102,368	79.0	31	0.0	13,838	10.7

<sup>1</sup> Details may not add to total due to rounding.

<sup>2</sup> Revised.

<sup>3</sup> Preliminary.

NOTE: Wide fluctuations in total revenues and expenses are caused by fluctuations in the number of medium regional carriers. Some have been upgraded to large regional carriers and some have gone out of business. For list of medium regional carriers see "Air Carrier Financial Statistics" for year in question.

Source: "Air Carrier Financial Statistics", Table 3—RSPA.

**TABLE 6.15**  
**OPERATING EXPENSES, SYSTEM, ALL SERVICES**  
**LARGE CERTIFICATED AIR CARRIERS**  
**MEDIUM REGIONAL GROUP**  
**1982-1989**  
(Thousands of Dollars)

Year	Total Operating Expenses <sup>1</sup>		Flying Operations		Maintenance		General and Administrative		Depreciation and Amortization		Transport Related	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
1982	467,998	100.0	242,231	51.8	52,816	11.2	122,861	26.3	19,791	4.2	30,239	6.5
1983	111,713	100.0	68,130	61.0	17,693	15.8	18,327	16.4	7,353	6.6	210	0.2
1984	159,680	100.0	89,995	56.4	21,572	13.5	37,866	23.7	9,885	6.2	361	0.2
1985	151,527	100.0	79,920	52.8	22,585	14.9	42,703	28.2	5,179	3.4	1,140	0.7
1986	87,359	100.0	45,435	52.0	14,515	16.6	17,436	20.0	2,616	3.0	7,356	8.4
1987	120,019	100.0	56,061	46.7	25,533	21.3	27,351	22.8	6,269	5.2	4,893	4.0
1988 <sup>2</sup>	76,823	100.0	32,629	42.5	18,191	23.7	18,779	24.4	5,731	7.5	1,494	1.9
1989 <sup>3</sup>	128,893	100.0	54,957	42.6	25,259	19.6	29,977	23.3	8,641	6.7	10,061	7.8

<sup>1</sup> Details may not add to total due to rounding.

<sup>2</sup> Revised.

<sup>3</sup> Preliminary.

NOTE: Wide fluctuations in total revenues and expenses are caused by fluctuations in the number of medium regional carriers. Some have been upgraded to large regional carriers and some have gone out of business. For list of medium regional carriers see "Air Carrier Financial Statistics" for year in question.

Source: "Air Carrier Financial Statistics", Table 3—RSPA.



**TABLE 6.16**  
**SMALL CERTIFICATED AND COMMUTER AIR CARRIERS**  
**1988 and 1989**

40-Mile Air	Empire Airways	Pacific Interstate <sup>1</sup>
Action Airlines	Enterprise Airlines	Pan Am Express
Aerial Transit Company <sup>1</sup>	ERA Aviation	Panama Aviation
Aero Coach	Exec Express II	Panorama Air Tours
Aeron Int'l	Executive Air Charter	Peninsula Airways
Air Cape	Express Airlines I	Pennsylvania Airlines
Air Caribe Int'l	Flamenco Airways	Pilgram Aviation
Air Kentucky Air Lines	Freedom Air	Pocono Airlines
Air L. A.	Friendship Air Alaska	Precision Valley Aviation
Air Midwest	Frontier Flying Service	Prime Air
Air Molakai	Galena Air Service	Propheter Aviation
Air Nevada Airlines	GCS Air Service	Provincetown Boston
Air Sedona	Golden Pacific Airlines	QWest Commuter
Air Sunshine	GP Express	Resort Commuter
Alaska Island Air	Grand Canyon Helicopters	Rocky Mountain Airways
Aleutian Air	Great Lakes Aviation	Ross Aviation
Alliance Airlines	Haines Airways	Royale Airlines
Alona Island Air	Harbor Air Service	Ryan Air Services
Alpna Air	Harbor Airlines	Samoa Aviation
Alpine Air	Havasut Airlines	San Juan Airlines
Altus Airlines	Helitrans	Scenic Airlines
Armstrong Air Service	Henson Aviation	Seagull Air Service
Atlantic Southeast Airlines	Hermens Air	SFO Helicopter Airlines
Atlantis Airlines	Holiday Airlines	Simmons Airlines
Audi Air	Hub Express	Skagway Air Service
Avair	Iliamna Air Taxi	Sky West Aviation
Baker Aviation	Inlet Airlines	South Pacific Island Airway
Bar Harbor Airways	Iowa Airways	Southcentral Air
Barrow Air	Jet Express	Southern Airways
Bas Aviation	Jetstream Int'l Airlines	Southern Jersey Airways
Bellair	Kenmore Air Harbor	Sportsman Flying Service
Bemidji Airlines	Ketchikan Air Service	Springdale Air
Bering Air	King Flying Service	Stateswest Airlines
Big Island Air	L.A.B. Flying Service	Suburban Airlines
Big Sky Airlines	Lake Union Air Services	Sunair
Britt Airways	Laredo Air	Tanana Air Service
Business Express Airlines	Larry's Flying Service	Tahtian Air Service
Cape Air	Las Vegas Air Lines	Tatonduk Flying Service
Cape Smythe Air Service	Long Island Airlines	Temsco Airlines
Capitol Airline	Mall Airways	Tennessee Airways
Catskill Airways	Manu'a Air Transport	Texas National Airlines
CCair	Mesa Airlines	Trans States Airlines
Chalks Int'l Airlines	Mesaba Aviation	Tri Air Freight
Channel Flying	Metro Air Northeast NY	Trump Air
Chaparral Airlines	Metro Air Northeast Vermont	Valley Airlines
Chartair	Metro Express	Vieques Air Link, Inc.
Chautauqua Airlines	Metroflight Airlines	Village Aviation
Chester County Aviation	Michigan Airways	Virgin Air
Chitina Air Service	Midcontinent Airlines	Virgin Islands Seaplane
Christman Air System	Midstate Airlines	Walker's International
Coastal Air Transport	Midway Commuter	Wilbur's
Comair	Midwest Aviation	Wings Airways
Command Airways	Mohawk Airlines	Wings of Alaska
Commutair	MST Aviation	Wings West
Conner Air Lines <sup>1</sup>	Nashville Eagle	WRA
Conquest Airlines	New England Airlines	Wrangell Air Service
Crown Airways	New York Helicopter	Wright Air Service
Cumberland Airlines	NPA	Yutana Airlines
Direct Air	Olson Air Service	Yute Air Alaska
East Hampton Air	Pacair	

<sup>1</sup> Large certificated medium regional air carrier.

**TABLE 6.17**  
**SMALL CERTIFICATED, COMMUTER AND LARGE CERTIFICATED MEDIUM REGIONAL**  
**AIR CARRIERS TRAFFIC DATA**  
**SCHEDULED SERVICES ONLY**  
**1981-1989**

Category	1981	1982	1983	1984	1985	1986	1987	1988 <sup>1</sup>	1989 <sup>2</sup>
Revenue Passenger Miles (000).....	2,160,350	2,905,243	2,228,453	4,601,837	3,031,817	3,352,187	3,986,637	4,582,522	5,097,522
Revenue Enplanements (000).....	15,642	17,444	15,941	20,230	18,853	20,849	24,839	27,801	29,394
Passenger Ton Miles (000).....	210,026	286,608	222,189	460,135	302,783	335,264	396,887	456,894	501,291
Cargo Ton Miles (000).....	32,812	30,911	7,752	18,291	67,400	49,927	54,659	6,333	43,030
Aircraft Revenue Miles (000).....	254,682	264,176	242,120	304,217	323,945	347,181	395,998	437,818	548,098
Aircraft Revenue Hours.....	1,558,025	1,504,406	1,464,879	1,759,848	1,832,623	1,940,095	2,193,230	2,389,988	2,596,595
Aircraft Departures.....	2,341,469	2,353,081	2,287,504	2,706,142	2,755,616	2,866,653	3,132,899	3,323,772	3,302,022

<sup>1</sup> Revised

<sup>2</sup> Preliminary

Source: "Air Carrier Industry Scheduled Traffic Statistics", RSPA

**TABLE 6.18**  
**SMALL CERTIFICATED, COMMUTER AND LARGE CERTIFICATED**  
**MEDIUM REGIONAL AIR CARRIERS**  
**TRAFFIC AVERAGES**  
**SCHEDULED SERVICES ONLY**  
**1981-1989**

Category	1981	1982	1983	1984	1985	1986	1987	1988 <sup>1</sup>	1989 <sup>2</sup>
Passengers Per Aircraft Mile.....	8.5	11.0	9.2	15.1	9.4	9.7	10.1	10.5	9.3
Available Seats Per Aircraft Mile.....	18.2	23.7	20.7	30.0	21.3	21.5	21.3	22.6	19.5
Revenue Tons Per Aircraft Mile.....	1.0	1.2	1.0	1.6	1.1	1.1	1.1	1.1	1.0
Available Tons Per Aircraft Mile.....	2.1	2.8	2.3	3.3	2.7	2.5	2.7	2.4	2.2
Flight Stage Length (Miles).....	108.8	112.3	105.8	112.3	117.6	128.7	126.4	131.7	166.0

<sup>1</sup> Revised

<sup>2</sup> Preliminary

Source: "Air Carrier Industry Scheduled Traffic Statistics", RSPA

## VII. U.S. CIVIL AIRMEN

Statistics pertaining to airmen, both pilot and nonpilot, were obtained from the official airmen certification records maintained by the Airmen Certification and Medical Certification Branches of the Mike Monroney Aeronautical Center at Oklahoma City, Oklahoma.

Active pilots are those pilots who hold a pilot certificate and a valid medical certificate—one that was issued within the last 25 months. Glider and Lighter-than-air pilots may have, but are not required to have, a medical examination. The inventory data for these categories include only those with a valid medical certificate.

For those nonpilot certificates for which a medical certificate is not required (mechanics, parachute riggers, ground instructors, and dispatchers), the numbers shown include all who have been issued that airman certificate.

**TABLE 7.1**  
**ESTIMATED ACTIVE PILOT CERTIFICATES HELD:**  
**DECEMBER 31, 1980-1989**

Category	1979	1980 <sup>1</sup>	1981	1982	1983	1984	1985	1986	1987	1988
<b>Pilot—Total</b> .....	<b>827,071</b>	<b>764,182</b>	<b>733,255</b>	<b>718,004</b>	<b>722,376</b>	<b>709,540</b>	<b>709,118</b>	<b>699,653</b>	<b>694,016</b>	<b>700,010</b>
Student.....	199,833	179,912	156,361	147,197	150,081	146,652	150,273	146,016	136,913	142,544
Private.....	357,479	328,562	322,094	318,643	320,086	311,086	305,736	300,949	299,786	293,179
Commercial.....	183,442	168,580	165,093	159,495	155,929	151,632	147,798	143,645	143,030	144,540
Airline Transport.....	69,569	70,311	73,471	75,938	79,192	82,740	87,186	91,287	96,968	102,087
Helicopter (only).....	6,030	6,453	7,034	7,237	7,532	8,123	8,581	8,702	8,608	8,863
Glider (only) <sup>2</sup> .....	7,039	7,388	7,842	8,157	8,390	8,168	8,411	7,901	7,600	7,708
Lighter-than-air <sup>2</sup> .....	3,679	2,976	1,360	1,337	1,166	1,139	1,133	1,153	1,111	1,089
<b>Nonpilot—Total</b> .....	<b>368,356</b>	<b>382,840</b>	<b>399,661</b>	<b>413,199</b>	<b>426,802</b>	<b>395,139</b>	<b>410,079</b>	<b>427,962</b>	<b>448,710</b>	<b>468,405</b>
Mechanic <sup>3</sup> .....	250,157	262,705	277,436	288,335	298,028	274,100	284,241	297,178	312,419	326,243
Parachute Rigger <sup>3</sup> .....	9,547	9,716	9,893	10,074	10,194	9,395	9,535	9,659	9,770	9,879
Ground Instructor <sup>3</sup> .....	61,550	63,246	65,004	66,385	67,463	58,214	59,443	60,861	62,582	64,503
Dispatcher <sup>3</sup> .....	6,799	7,094	7,580	8,223	8,980	8,511	9,025	9,491	10,020	10,455
Flight Navigator.....	1,936	1,785	1,695	1,636	1,603	1,542	1,512	1,445	1,400	1,357
Flight Engineer.....	38,367	38,294	38,053	38,546	40,534	43,377	46,323	49,328	52,519	55,968
<b>Flight Instructor Certificates</b> <sup>4</sup> .....	<b>60,440</b>	<b>57,523</b>	<b>62,492</b>	<b>62,201</b>	<b>61,173</b>	<b>58,940</b>	<b>57,355</b>	<b>60,316</b>	<b>61,798</b>	<b>61,472</b>
<b>Instrument Ratings</b> <sup>5</sup> .....	<b>260,461</b>	<b>252,535</b>	<b>255,073</b>	<b>254,271</b>	<b>256,584</b>	<b>258,559</b>	<b>262,388</b>	<b>266,122</b>	<b>273,804</b>	<b>282,804</b>

<sup>1</sup> For 1980 only, a valid medical certificate was defined as one that was issued within the last 27 months.

<sup>2</sup> Glider and lighter-than-air pilots are not required to have a medical examination; however, the totals above represent pilots who received a medical examination within the last 25 months.

<sup>3</sup> Numbers represent all certificates on record. No medical examination required.

<sup>4</sup> Not included in total.

<sup>5</sup> Special ratings shown on pilot certificates, do not indicate additional certificates.

**TABLE 7.2**  
**ESTIMATED ACTIVE WOMEN PILOT CERTIFICATES HELD:**  
**DECEMBER 31, 1980-1989**

Category of Certificates Held	1980 <sup>1</sup>	1981	1982	1983	1984	1985	1986	1987	1988	1989
<b>Pilot—Total</b> .....	<b>52,902</b>	<b>47,721</b>	<b>45,305</b>	<b>43,648</b>	<b>44,339</b>	<b>43,483</b>	<b>43,082</b>	<b>42,578</b>	<b>42,299</b>	<b>42,366</b>
Student.....	26,006	22,591	19,958	18,696	19,435	19,058	18,899	18,367	17,529	17,637
Private.....	21,554	19,602	19,388	18,801	18,616	17,974	17,532	17,349	17,544	16,988
Commercial.....	3,993	4,101	4,257	4,281	4,232	4,185	4,176	4,208	4,410	4,760
Airline Transport.....	480	584	749	884	1,032	1,184	1,334	1,538	1,745	1,898
Helicopter (only).....	55	87	113	144	167	196	232	247	259	273
Glider (only) <sup>2</sup> .....	496	540	574	599	631	653	667	627	590	586
Lighter-than-air <sup>2</sup> .....	318	216	266	243	226	233	242	242	222	224
<b>Nonpilot—Total</b> .....	<b>4,779</b>	<b>5,201</b>	<b>5,697</b>	<b>6,151</b>	<b>6,591</b>	<b>6,017</b>	<b>6,502</b>	<b>7,101</b>	<b>7,842</b>	<b>8,651</b>
Mechanic <sup>3</sup> .....	890	1,051	1,298	1,493	1,649	1,775	1,964	2,237	2,565	2,892
Parachute Rigger <sup>3</sup> .....	562	580	593	605	614	412	414	428	441	451
Ground Instructor <sup>3</sup> .....	3,015	3,213	3,391	3,554	3,680	2,980	3,087	3,232	3,391	3,554
Dispatcher <sup>3</sup> .....	141	167	199	249	310	394	460	524	622	711
Flight Engineer.....	171	189	215	248	336	455	577	680	822	1,042
Flight Navigator.....	0	1	1	2	2	1	0	0	1	1
<b>Flight Instructor</b> <sup>4</sup> .....	<b>2,079</b>	<b>2,165</b>	<b>2,532</b>	<b>2,665</b>	<b>2,735</b>	<b>2,731</b>	<b>2,687</b>	<b>2,909</b>	<b>3,018</b>	<b>3,074</b>

<sup>1</sup> For 1980 only, a valid medical certificate was defined as one that was issued within the last 27 months.

<sup>2</sup> Glider and lighter-than-air pilots are not required to have a medical examination; however, the totals above represent pilots who received a medical examination within the last 25 months.

<sup>3</sup> Numbers represent all certificates on record. No medical examination required.

<sup>4</sup> Not included in total.

Note: Instrument ratings not reported.

**TABLE 7.3**  
**ESTIMATED ACTIVE PILOT AND NONPILOT CERTIFICATES HELD,**  
**BY CLASS OF CERTIFICATES AND BY FAA REGION:**  
**DECEMBER 31, 1989**

Class of Certificate	Total <sup>1</sup>	Alaskan	Central	Eastern	Great Lakes	New England	North-west Mountain	Southern	South-west	Western Pacific	Outside U.S. <sup>2</sup>
<b>Total—All Pilots</b>	<b>700,010</b>	<b>9,600</b>	<b>34,957</b>	<b>91,582</b>	<b>115,185</b>	<b>34,465</b>	<b>65,470</b>	<b>120,250</b>	<b>81,945</b>	<b>122,344</b>	<b>24,212</b>
<b>Student Pilots—Total</b>	<b>142,544</b>	<b>1,490</b>	<b>6,180</b>	<b>21,317</b>	<b>24,000</b>	<b>8,265</b>	<b>12,633</b>	<b>24,061</b>	<b>15,233</b>	<b>24,474</b>	<b>4,891</b>
<b>Private Pilots—Total</b>	<b>293,179</b>	<b>4,540</b>	<b>17,512</b>	<b>37,126</b>	<b>55,210</b>	<b>14,638</b>	<b>28,029</b>	<b>46,123</b>	<b>33,312</b>	<b>52,407</b>	<b>4,282</b>
Private Airplane (only)	282,540	4,411	17,056	35,501	53,875	14,132	26,966	44,218	32,185	50,279	3,917
Private Airplane, Private Glider	4,049	37	168	683	596	198	378	605	392	935	57
Private Airplane, Commercial Glider	807	3	20	172	118	63	101	82	72	169	7
Private Airplane, Private Gyroplane	31	0	3	2	9	2	0	2	7	6	0
Private Airplane, Private Helicopter	1,459	12	62	178	162	92	163	229	179	297	85
Private Airplane, Private Glider, Private Helicopter	58	0	11	4	9	5	4	5	2	14	4
Private Airplane, Commercial Helicopter	4,186	76	202	567	436	145	409	974	470	699	208
Private Airplane, Private Glider, Commercial Helicopter	30	0	0	6	2	1	7	3	3	5	3
Private Airplane, Commercial Glider, Commercial Helicopter	17	1	0	3	1	0	1	5	2	3	1
Private Airplane, Commercial Gyroplane, Commercial Helicopter	2	0	0	0	2	0	0	0	0	0	0
<b>Commercial Pilots—Total</b>	<b>144,540</b>	<b>2,417</b>	<b>7,088</b>	<b>17,848</b>	<b>21,223</b>	<b>5,929</b>	<b>13,303</b>	<b>26,206</b>	<b>18,434</b>	<b>24,636</b>	<b>7,456</b>
Commercial Airplane (only)	123,612	2,089	6,235	14,946	18,941	5,123	11,183	21,630	15,741	20,618	7,106
Commercial Airplane, Private Glider	2,057	27	98	316	282	69	232	361	218	428	26
Commercial Airplane, Commercial Glider	3,685	30	131	560	505	210	417	570	417	812	33
Commercial Airplane, Commercial Gyroplane, Commercial Glider	3	0	1	0	1	0	0	0	0	1	0
Commercial Airplane, Private Helicopter	325	6	12	50	54	12	30	49	37	65	10
Commercial Airplane, Commercial Glider, Private Helicopter	27	0	0	6	5	1	1	2	3	7	2
Commercial Airplane, Commercial Helicopter	14,085	255	585	1,859	1,355	477	1,357	3,452	1,938	2,541	266
Commercial Airplane, Private Glider, Commercial Helicopter	154	3	5	23	25	7	15	31	13	28	4
Commercial Airplane, Commercial Glider, Commercial Helicopter	535	5	20	84	45	28	59	102	60	125	7
Commercial Airplane, Commercial Helicopter, Commercial Gyroplane	19	1	1	2	4	0	3	3	0	4	1
Commercial Airplane, Commercial Gyroplane	27	1	0	1	4	2	5	5	5	4	0
Commercial Airplane, Commercial Gyroplane, Commercial Helicopter	11	0	0	1	2	0	1	1	2	3	1
<b>Airline Transport Pilots—Total</b>	<b>102,087</b>	<b>1,030</b>	<b>3,664</b>	<b>12,182</b>	<b>12,876</b>	<b>4,683</b>	<b>9,976</b>	<b>20,773</b>	<b>13,117</b>	<b>17,009</b>	<b>6,777</b>
Airline Transport Airplane (only)	100,317	992	3,622	11,861	12,713	4,569	9,830	20,428	12,838	16,734	6,730
Airline Transport Airplane, Airline Transport Helicopter	1,770	38	42	321	163	114	146	345	279	275	47
<b>Rotorcraft (only) Pilots—Total</b>	<b>8,863</b>	<b>105</b>	<b>326</b>	<b>1,386</b>	<b>729</b>	<b>426</b>	<b>600</b>	<b>2,257</b>	<b>1,106</b>	<b>1,284</b>	<b>644</b>
Private Gyroplane	12	0	1	0	4	1	1	1	1	1	2
Private Helicopter	1,264	6	27	181	90	128	74	139	89	310	220
Commercial Helicopter	7,116	91	295	1,133	608	282	490	2,041	905	919	352
Commercial Helicopter, Private Glider	6	0	0	3	0	0	0	1	0	2	0
Commercial Helicopter, Commercial Glider	2	0	0	1	0	0	0	0	0	1	0
Commercial Gyroplane	1	0	0	0	1	0	0	0	0	0	0
Commercial Helicopter, Commercial Gyroplane	1	0	0	0	0	0	0	0	1	0	0
Airline Transport Helicopter	461	8	3	68	26	15	35	75	110	51	70

**TABLE 7.3—Continued**  
**ESTIMATED ACTIVE PILOT AND NONPILOT CERTIFICATES HELD,**  
**BY CLASS OF CERTIFICATES AND BY FAA REGION:**  
**DECEMBER 31, 1989**

Class of Certificate	Total <sup>1</sup>	Alaskan	Central	Eastern	Great Lakes	New England	North-west Mountain	Southern	South-west	Western Pacific	Outside U.S. <sup>2</sup>
<b>Glider (only)—Total</b> .....	<b>7,708</b>	<b>14</b>	<b>124</b>	<b>1,586</b>	<b>955</b>	<b>472</b>	<b>820</b>	<b>670</b>	<b>565</b>	<b>2,355</b>	<b>147</b>
Private Glider.....	6,652	10	109	1,336	820	386	692	583	484	2,104	128
Commercial Glider.....	1,056	4	15	250	135	86	128	87	81	251	19
Lighter-Than-Air.....	1,089	4	63	137	192	52	109	160	178	179	15
<b>Total—All Nonpilot</b> .....	<b>468,405</b>	<b>4,676</b>	<b>23,091</b>	<b>65,679</b>	<b>60,634</b>	<b>19,676</b>	<b>40,102</b>	<b>82,496</b>	<b>61,726</b>	<b>88,727</b>	<b>21,398</b>
Mechanic <sup>3</sup> .....	326,243	3,254	17,817	47,108	41,678	13,488	25,678	54,682	44,148	63,857	14,533
Parachute Rigger <sup>3</sup> .....	9,879	154	435	1,662	1,238	354	1,324	1,887	999	1,641	165
Ground Instructor <sup>3</sup> .....	64,503	732	3,206	8,842	10,103	2,806	5,914	11,188	8,446	11,576	1,690
Dispatcher <sup>3</sup> .....	10,455	169	157	2,014	1,027	268	536	1,976	824	1,495	1,989
Flight Navigator.....	1,357	4	12	217	37	149	142	237	73	392	94
Flight Engineer.....	55,968	363	1,464	5,816	6,751	2,611	6,508	12,526	7,236	9,766	2,927
<b>Flight Instructor Certificates—Total <sup>4</sup></b> .....	<b>61,472</b>	<b>728</b>	<b>3,193</b>	<b>8,704</b>	<b>10,649</b>	<b>2,899</b>	<b>5,940</b>	<b>10,441</b>	<b>7,588</b>	<b>10,212</b>	<b>1,118</b>
<b>Instrument Ratings <sup>5</sup></b> .....	<b>282,804</b>	<b>3,442</b>	<b>12,703</b>	<b>36,438</b>	<b>41,754</b>	<b>12,663</b>	<b>25,540</b>	<b>54,610</b>	<b>35,179</b>	<b>47,921</b>	<b>12,554</b>

<sup>1</sup> Includes Outside U.S. total.

<sup>2</sup> Outside U.S. includes airmen certificated by the FAA who live outside the 50 states or in foreign countries.

<sup>3</sup> Total ratings issued to date. These ratings retain their validity without periodic medical examinations.

<sup>4</sup> Not included in total.

<sup>5</sup> Special ratings shown on pilot certificates, do not indicate additional ratings.

**TABLE 7.4**  
**ESTIMATED ACTIVE PILOTS AND FLIGHT INSTRUCTORS**  
**BY FAA REGION AND STATE:**  
**DECEMBER 31, 1989**

FAA Region and State	Total Pilots	Students	Private	Commercial	Airline Transport	Miscellaneous <sup>2</sup>	Flight Instructor <sup>3</sup>
<b>Total</b>	<b>700,010</b>	<b>142,544</b>	<b>293,179</b>	<b>144,540</b>	<b>102,087</b>	<b>17,660</b>	<b>61,472</b>
<b>United States—Total</b>	<b>675,798</b>	<b>137,653</b>	<b>288,897</b>	<b>137,084</b>	<b>95,310</b>	<b>16,854</b>	<b>60,354</b>
<b>Alaskan Region—Total</b>	<b>9,600</b>	<b>1,490</b>	<b>4,540</b>	<b>2,417</b>	<b>1,030</b>	<b>123</b>	<b>728</b>
<b>Central—Total</b>	<b>34,957</b>	<b>6,180</b>	<b>17,512</b>	<b>7,088</b>	<b>3,664</b>	<b>513</b>	<b>3,193</b>
Iowa	7,334	1,303	4,066	1,405	472	88	626
Kansas	9,372	1,492	4,795	1,984	978	123	879
Missouri	13,153	2,492	6,083	2,486	1,836	256	1,292
Nebraska	5,098	893	2,568	1,213	378	46	396
<b>Eastern—Total</b>	<b>91,582</b>	<b>21,317</b>	<b>37,126</b>	<b>17,848</b>	<b>12,182</b>	<b>3,109</b>	<b>8,704</b>
Delaware	1,732	382	697	331	281	41	194
District of Columbia	613	149	254	135	43	32	58
Maryland	9,999	2,109	4,408	1,935	1,258	289	935
New Jersey	14,532	3,422	5,800	2,570	2,234	506	1,366
New York	25,156	6,440	10,315	4,836	2,480	1,085	2,304
Pennsylvania	21,523	5,203	8,979	3,689	3,024	628	2,220
Virginia	15,525	3,037	5,468	3,878	2,681	461	1,413
West Virginia	2,502	575	1,205	474	181	67	214
<b>Great Lakes—Total</b>	<b>115,185</b>	<b>24,000</b>	<b>55,210</b>	<b>21,223</b>	<b>12,876</b>	<b>1,876</b>	<b>10,649</b>
Illinois	27,021	5,891	11,994	4,774	3,904	458	2,722
Indiana	12,410	2,746	6,075	2,303	1,117	169	1,148
Michigan	20,016	4,305	9,907	3,511	1,855	438	1,805
Minnesota	16,185	2,997	7,630	2,999	2,389	170	1,383
North Dakota	3,281	666	1,618	872	108	17	290
Ohio	21,936	4,554	10,610	4,106	2,185	481	2,117
South Dakota	2,494	496	1,203	594	181	20	218
Wisconsin	11,842	2,345	6,173	2,064	1,137	123	966
<b>New England—Total</b>	<b>34,465</b>	<b>8,265</b>	<b>14,638</b>	<b>5,929</b>	<b>4,683</b>	<b>950</b>	<b>2,899</b>
Connecticut	9,151	2,036	3,540	1,519	1,791	265	777
Maine	3,879	852	1,779	822	362	64	298
Massachusetts	13,023	3,506	5,825	2,126	1,174	392	1,098
New Hampshire	4,928	1,065	1,937	819	980	127	439
Rhode Island	1,602	343	746	306	165	42	115
Vermont	1,882	463	811	337	211	60	172
<b>Northwest Mountain—Total</b>	<b>65,470</b>	<b>12,633</b>	<b>28,029</b>	<b>13,303</b>	<b>9,976</b>	<b>1,529</b>	<b>5,940</b>
Colorado	217,536	3,828	6,272	3,459	3,441	536	1,797
Idaho	4,231	695	2,098	950	421	67	365
Montana	3,924	673	1,993	900	320	38	362
Oregon	10,039	1,864	5,213	2,005	765	192	837
Utah	5,690	1,180	2,418	1,025	945	122	467
Washington	22,110	4,077	8,981	4,582	3,927	543	1,946
Wyoming	1,940	316	1,054	382	157	31	166
<b>Southern—Total</b>	<b>120,250</b>	<b>24,061</b>	<b>46,123</b>	<b>26,206</b>	<b>20,773</b>	<b>3,087</b>	<b>10,441</b>
Alabama	9,394	1,808	3,699	2,275	748	864	883
Florida	47,220	9,06	17,960	11,015	8,335	849	4,192
Georgia	18,607	3,458	6,461	3,719	4,617	352	1,448
Kentucky	5,775	1,206	2,496	995	939	139	522
Mississippi	4,628	992	1,797	1,360	380	99	397
North Carolina	15,415	3,358	6,180	2,993	2,486	398	1,205
South Carolina	6,969	1,614	2,836	1,609	786	124	574
Tennessee	12,242	2,564	4,694	2,240	2,482	262	1,220
<b>Southwest—Total</b>	<b>81,945</b>	<b>15,233</b>	<b>33,312</b>	<b>18,434</b>	<b>13,117</b>	<b>1,849</b>	<b>7,588</b>
Arkansas	5,962	1,183	2,681	1,551	475	72	506
Louisiana	8,136	1,612	3,110	2,182	929	303	741
New Mexico	5,152	1,127	2,052	1,250	511	212	502
Oklahoma	10,886	2,109	5,263	2,380	982	152	928
Texas	51,809	9,202	20,206	11,071	10,220	1,110	4,911
<b>Western-Pacific—Total</b>	<b>122,344</b>	<b>24,474</b>	<b>52,407</b>	<b>24,636</b>	<b>17,009</b>	<b>3,818</b>	<b>10,212</b>
Arizona	15,815	3,143	6,460	3,360	2,310	542	1,531
California	97,332	19,437	43,034	19,303	12,640	2,918	7,898
Hawaii	3,814	897	866	905	946	200	284
Nevada	5,383	997	2,047	1,068	1,113	158	499
<b>Outside U.S.—Total</b>	<b>24,212</b>	<b>4,891</b>	<b>4,282</b>	<b>7,456</b>	<b>6,777</b>	<b>806</b>	<b>1,118</b>
<b>Other U.S. Areas</b>	<b>1,977</b>	<b>601</b>	<b>641</b>	<b>354</b>	<b>338</b>	<b>43</b>	<b>0</b>
American Samoa	16	2	5	3	4	2	0
Canal Zone	2	1	0	0	1	0	0
Guam	138	29	27	22	60	0	0
Puerto Rico	1,528	506	509	261	215	37	0
Virgin Island	290	62	100	66	58	4	0
Wake Island	3	1	0	2	0	0	0

<sup>1</sup> Includes Outside U.S.

<sup>2</sup> Includes helicopter, glider, and lighter-than-air.

<sup>3</sup> Not included in total.

<sup>4</sup> Outside U.S. includes Other U.S. Areas outside of the 50 states or in Foreign countries.

**TABLE 7.5**  
**ESTIMATED ACTIVE WOMEN PILOTS AND FLIGHT INSTRUCTORS**  
**BY FAA REGION AND STATE:**  
**DECEMBER 31, 1989**

FAA Region and State	Total Pilots	Students	Private	Commercial	Airline Transport	Miscellaneous <sup>2</sup>	Flight Instructor <sup>1</sup>
<b>Total</b>	<b>42,376</b>	<b>17,637</b>	<b>16,988</b>	<b>4,760</b>	<b>1,898</b>	<b>1,093</b>	<b>3,074</b>
<b>United States—Total</b>	<b>41,590</b>	<b>17,310</b>	<b>16,763</b>	<b>4,598</b>	<b>1,860</b>	<b>1,059</b>	<b>3,029</b>
<b>Alaskan Region—Total</b>	<b>747</b>	<b>264</b>	<b>378</b>	<b>78</b>	<b>21</b>	<b>6</b>	<b>43</b>
<b>Central—Total</b>	<b>1,894</b>	<b>747</b>	<b>883</b>	<b>168</b>	<b>63</b>	<b>33</b>	<b>116</b>
Iowa	339	129	163	34	8	5	15
Kansas	521	197	258	40	19	7	32
Missouri	788	333	343	68	27	17	53
Nebraska	246	88	119	26	9	4	16
<b>Eastern—Total</b>	<b>5,864</b>	<b>2,633</b>	<b>2,142</b>	<b>649</b>	<b>235</b>	<b>205</b>	<b>442</b>
Delaware	106	50	33	13	6	4	9
District of Columbia	57	22	26	2	6	1	4
Maryland	683	283	285	64	35	16	48
New Jersey	903	434	290	107	38	34	73
New York	1,593	727	552	183	51	80	118
Pennsylvania	1,460	652	559	158	50	41	105
Virginia	939	410	349	109	46	25	79
West Virginia	123	55	48	13	3	4	6
<b>Great Lakes—Total</b>	<b>6,898</b>	<b>2,843</b>	<b>2,857</b>	<b>795</b>	<b>280</b>	<b>123</b>	<b>548</b>
Illinois	1,722	721	668	213	98	22	141
Indiana	689	281	290	80	25	13	51
Michigan	1,227	516	495	135	41	40	92
Minnesota	930	350	402	110	52	16	87
North Dakota	164	56	75	32	1	0	16
Ohio	1,350	572	559	147	44	28	103
South Dakota	112	42	55	19	4	1	6
Wisconsin	704	305	313	68	15	3	52
<b>New England—Total</b>	<b>2,312</b>	<b>1,047</b>	<b>874</b>	<b>220</b>	<b>108</b>	<b>63</b>	<b>163</b>
Connecticut	578	250	210	58	39	21	47
Maine	210	93	92	17	7	1	13
Massachusetts	932	451	344	87	33	17	60
New Hampshire	348	157	126	31	19	15	30
Rhode Island	105	34	55	12	3	1	3
Vermont	139	62	47	15	7	8	10
<b>Northwest Mountain—Total</b>	<b>4,394</b>	<b>1,729</b>	<b>1,866</b>	<b>493</b>	<b>197</b>	<b>109</b>	<b>319</b>
Colorado	1,335	583	462	159	82	49	124
Idaho	254	89	121	35	5	4	21
Montana	192	75	94	19	3	1	13
Oregon	717	272	344	68	19	14	45
Utah	261	111	106	22	15	7	16
Washington	1,532	567	679	179	73	34	98
Wyoming	103	32	60	11	0	0	2
<b>Southern—Total</b>	<b>6,380</b>	<b>2,791</b>	<b>2,355</b>	<b>718</b>	<b>367</b>	<b>149</b>	<b>457</b>
Alabama	400	177	150	25	7	41	19
Florida	2,854	1,202	1,090	367	148	47	223
Georgia	820	363	313	81	48	15	47
Kentucky	263	111	93	30	28	1	22
Mississippi	233	116	80	22	10	5	13
North Carolina	808	365	291	87	46	19	61
South Carolina	340	178	109	29	16	8	17
Tennessee	662	279	229	77	64	13	55
<b>Southwest—Total</b>	<b>4,409</b>	<b>1,857</b>	<b>1,787</b>	<b>478</b>	<b>188</b>	<b>99</b>	<b>308</b>
Arkansas	277	121	127	24	3	2	17
Louisiana	338	158	126	40	10	4	26
New Mexico	390	176	121	46	16	31	37
Oklahoma	625	246	274	71	29	5	51
Texas	2,779	1,156	1,139	297	130	57	177
<b>Western-Pacific—Total</b>	<b>8,692</b>	<b>3,399</b>	<b>3,621</b>	<b>999</b>	<b>401</b>	<b>272</b>	<b>633</b>
Arizona	1,189	475	475	136	52	51	93
California	6,875	2,659	2,928	790	308	190	491
Hawaii	269	124	67	35	26	17	26
Nevada	359	141	151	38	15	14	23
<b>Outside U.S.—Total</b>	<b>786</b>	<b>327</b>	<b>225</b>	<b>162</b>	<b>38</b>	<b>34</b>	<b>45</b>
<b>Other U.S. Areas</b>	<b>89</b>	<b>52</b>	<b>20</b>	<b>7</b>	<b>8</b>	<b>2</b>	<b>0</b>
American Samoa	1	1	0	0	0	0	0
Guam	13	7	2	1	3	0	0
Puerto Rico	57	39	13	1	2	2	0
Virgin Island	17	4	5	5	3	0	0
Wake Island	1	1	0	0	0	0	0

<sup>1</sup> Includes Outside U.S.

<sup>2</sup> Includes helicopter, glider, and lighter-than-air.

<sup>3</sup> Not included in total.

<sup>4</sup> Other U.S. Areas are included in Outside U.S. Total.



**TABLE 7.6**  
**ESTIMATED ACTIVE HELICOPTER PILOTS**  
**BY CLASS OF CERTIFICATES**  
**DECEMBER 31, 1989**

Class of Certificates	Number of Certificates Held
<b>Total</b> .....	<b>31,602</b>
Private Helicopter.....	1,264
Private Helicopter, Private Airplane.....	1,459
Private Helicopter, Private Airplane, Private Glider.....	58
Private Helicopter, Commercial Airplane.....	325
Private Helicopter, Commercial Airplane, Commercial Glider.....	27
Private Gyroplane.....	12
Private Gyroplane, Private Airplane.....	31
Commercial Helicopter.....	7,116
Commercial Helicopter, Private Airplane.....	4,186
Commercial Helicopter, Private Glider.....	6
Commercial Helicopter, Commercial Glider.....	2
Commercial Helicopter, Private Airplane, Commercial Gyroplane.....	2
Commercial Helicopter, Private Airplane, Private Glider.....	30
Commercial Helicopter, Private Airplane, Commercial Glider.....	17
Commercial Helicopter, Commercial Airplane.....	14,085
Commercial Helicopter, Commercial Airplane, Private Glider.....	154
Commercial Helicopter, Commercial Airplane, Commercial Glider.....	535
Commercial Gyroplane.....	1
Commercial Helicopter, Commercial Airplane, Commercial Gyroplane.....	19
Commercial Helicopter, Commercial Airplane, Commercial Gyroplane, Commercial Glider.....	11
Commercial Helicopter, Commercial Gyroplane.....	1
Commercial Gyroplane, Commercial Airplane.....	27
Commercial Gyroplane, Commercial Airplane, Commercial Glider.....	3
Airline Transport Helicopter.....	461
Airline Transport Helicopter, Airline Transport Airplane.....	1,770

**TABLE 7.7**  
**ESTIMATED ACTIVE HELICOPTER PILOTS**  
**BY CLASS OF CERTIFICATES**  
**DECEMBER 31, 1989**

Class of Certificates	Number of Certificates Held
<b>Total</b> .....	<b>19,149</b>
Private Glider.....	6,652
Private Glider, Private Airplane.....	4,049
Private Glider, Private Airplane, Private Helicopter.....	58
Private Glider, Private Airplane, Commercial Helicopter.....	30
Private Glider, Commercial Airplane.....	2,057
Private Glider, Commercial Airplane, Commercial Helicopter.....	154
Private Glider, Commercial Helicopter.....	6
Commercial Glider.....	1,056
Commercial Glider, Commercial Airplane.....	3,685
Commercial Glider, Private Airplane.....	807
Commercial Glider, Private Airplane, Commercial Helicopter.....	17
Commercial Glider, Commercial Helicopter.....	2
Commercial Glider, Commercial Airplane, Private Helicopter.....	27
Commercial Glider, Commercial Airplane, Commercial Helicopter.....	535
Commercial Glider, Commercial Airplane, Commercial Gyroplane.....	3
Commercial Glider, Commercial Airplane, Commercial Gyroplane, Commercial Helicopter.....	11

**TABLE 7.8**  
**ESTIMATED ACTIVE HELICOPTER AND GLIDER PILOTS**  
**DECEMBER 31, 1985-89**

Calendar Year	Total Helicopter Pilots <sup>1</sup>		Total Glider Pilots <sup>2</sup>	
	Number	Percent Change	Number	Percent Change
1989 .....	31,602	0.8	19,149	0.3
1988 .....	31,349	-0.5	19,095	-2.2
1987 .....	31,513	-0.6	19,530	-4.1
1986 .....	31,697	1.6	20,355	0.2
1985 .....	31,206	2.3	20,308	-2.0

<sup>1</sup> Includes pilots with ratings to fly helicopters only.

<sup>2</sup> Includes pilots with ratings to fly gliders only.

**TABLE 7.9**  
**ESTIMATED TOTAL PILOTS AND INSTRUMENT RATED PILOTS**  
**DECEMBER 31, 1985-89**

Calendar Year	Total Pilots <sup>1</sup>	Instrument Rated Pilots	
		Number	Percent of Total
1989 .....	557,466	282,804	51
1988 .....	557,103	273,804	49
1987 .....	553,637	266,122	48
1986 .....	558,845	262,388	47
1985 .....	562,888	258,559	46

<sup>1</sup> Excludes student pilots.

**TABLE 7.10**  
**ESTIMATED ACTIVE PILOT CERTIFICATES HELD**  
**BY CATEGORY AND AGE GROUP OF HOLDER**  
**1989, 1988, 1985**

Age Group	Total Active Pilots			Student			Private			Commercial			Airline Transport		
	1989	1988	1985	1989	1988	1985	1989	1988	1985	1989	1988	1985	1989	1988	1985
<b>Total</b>	<b>700,010</b>	<b>694,016</b>	<b>709,540</b>	<b>142,544</b>	<b>136,913</b>	<b>146,652</b>	<b>293,179</b>	<b>299,796</b>	<b>311,086</b>	<b>144,540</b>	<b>143,030</b>	<b>151,632</b>	<b>102,087</b>	<b>96,968</b>	<b>82,740</b>
14-15	233	242	266	233	243	266	0	0	0	0	0	0	0	0	0
16-19	19,487	19,995	16,868	15,207	15,224	13,184	3,910	4,367	3,382	244	260	135	0	0	0
20-24	55,353	55,141	59,171	24,346	23,838	26,389	19,804	20,824	22,727	9,654	8,804	8,193	411	433	528
25-29	82,706	83,355	91,188	25,708	25,187	28,420	29,133	31,308	35,897	18,687	17,542	17,323	6,213	6,395	6,370
30-34	96,167	96,632	103,012	22,930	21,346	24,868	38,367	40,858	46,081	16,944	16,592	17,036	14,920	14,224	11,807
35-39	97,183	96,922	109,677	18,529	17,420	19,765	43,781	44,641	47,322	15,924	16,190	22,866	16,112	15,692	15,982
40-44	98,618	97,054	93,050	14,000	12,959	13,191	41,769	41,632	40,288	20,277	21,387	23,683	19,490	18,226	13,790
45-49	79,453	77,435	72,354	8,847	8,216	8,029	34,283	34,073	32,153	18,365	18,282	18,432	16,331	15,456	12,541
50-54	58,701	57,909	59,996	5,269	4,935	5,543	25,691	25,962	28,473	13,783	13,897	15,274	13,074	12,263	9,933
55-59	46,890	46,820	47,696	3,536	3,363	3,716	22,376	23,453	27,206	11,529	11,394	10,310	8,78	7,939	5,695
60 and over	65,199	62,510	56,260	3,939	3,582	3,281	34,065	32,668	27,557	19,133	18,682	18,380	6,707	6,340	6,094

Age Group	Helicopter (Only)			Glider (Only) <sup>1</sup>			Lighter-than-air <sup>1</sup>			Flight Instructor <sup>2</sup>		
	1989	1988	1985	1989	1988	1985	1989	1988	1985	1989	1988	1985
<b>Total</b>	<b>8,863</b>	<b>8,608</b>	<b>8,123</b>	<b>7,708</b>	<b>7,600</b>	<b>8,168</b>	<b>1,089</b>	<b>1,111</b>	<b>1,139</b>	<b>61,472</b>	<b>61,798</b>	<b>58,940</b>
14-15	0	0	0	0	0	0	0	0	0	0	0	0
16-19	24	18	20	91	112	130	11	14	17	66	95	65
20-24	817	854	789	286	346	500	35	42	45	4,649	4,484	4,379
25-29	2,265	2,228	2,178	548	574	847	107	121	153	8,062	8,048	8,218
30-34	1,823	1,749	1,572	983	1,052	1,399	200	211	249	8,252	8,622	8,640
35-39	1,252	1,396	1,945	1,314	1,307	1,485	271	276	312	8,282	8,450	9,859
40-44	1,629	1,456	944	1,253	1,171	978	220	223	176	9,251	9,518	8,330
45-49	638	536	407	844	764	698	145	108	94	7,470	7,372	6,251
50-54	260	222	153	591	581	574	33	49	46	5,529	5,471	4,946
55-59	88	90	77	539	542	660	38	39	34	4,196	4,124	3,363
60 and over	67	59	38	1,259	1,151	897	29	28	13	5,715	5,614	4,889

<sup>1</sup> Glider and lighter-than-air pilots are not required to have a medical examination; however, totals above represent pilots who received a medical examination.

<sup>2</sup> Not included in total active pilots.

**TABLE 7.11**  
**AVERAGE AGE OF ACTIVE PILOTS BY CATEGORY**  
**DECEMBER 31, 1980-1989**

Year	Total <sup>1</sup>	Student	Private	Commercial	Airline Transport
1980	37.5	30.5	39.0	40.4	41.9
1981	37.8	30.7	39.3	40.7	42.0
1982	38.3	31.2	39.5	41.0	42.3
1983	38.8	31.7	40.0	41.5	42.5
1984	39.2	32.1	40.4	42.0	42.7
1985	39.5	32.4	40.8	42.4	42.8
1986	39.7	32.2	41.1	42.6	43.0
1987	39.9	32.3	41.4	42.7	43.1
1988	40.1	32.5	41.4	42.6	43.2
1989	40.2	32.7	41.8	42.5	43.4

<sup>1</sup> Includes helicopter (only), glider (only) and lighter-than-air (only) pilots not shown separately.

**TABLE 7.12**  
**ESTIMATED INSTRUMENT RATING HELD**  
**BY CLASS OF CERTIFICATES**  
**DECEMBER 31, 1988 AND 1989**

Class of Certificates	1989	1988	Percent Change 1989-1988
<b>Total—all groups</b>	<b>282,804</b>	<b>273,804</b>	<b>3 %</b>
Private Pilots—Total	51,067	49,381	3 %
Private Airplane (only)	46,859	45,316	3 %
Private Airplane, Private Glider	1,023	1,007	2 %
Private Airplane, Commercial Glider	119	108	10 %
Private Airplane, Private Helicopter	403	356	13 %
Private Airplane, Private Glider, Private Helicopter	27	25	8 %
Private Airplane, Commercial Helicopter	2,606	2,537	3 %
Private Airplane, Private Gyroplane	5	3	67 %
Private Airplane, Private Glider, Commercial Helicopter	12	15	-20 %
Private Airplane, Commercial Glider, Commercial Helicopter	12	13	-8 %
Private Airplane, Other	1	1	0 %
<b>Commercial Pilots—Total</b>	<b>123,908</b>	<b>121,674</b>	<b>2 %</b>
Commercial Airplane (only)	105,402	102,982	2 %
Commercial Airplane, Private Glider	1,783	1,778	0 %
Commercial Airplane, Commercial Glider	3,037	3,033	0 %
Commercial Airplane, Private Helicopter	282	264	7 %
Commercial Airplane, Commercial Helicopter	12,708	12,911	-2 %
Commercial Airplane, Private Glider, Commercial Helicopter	136	132	3 %
Commercial Airplane, Commercial Glider, Commercial Helicopter	488	506	-4 %
Commercial Airplane, Commercial Gyroplane	19	15	27 %
Commercial Airplane, Commercial Helicopter, Commercial Gyroplane	16	18	-11 %
Commercial Airplane, Commercial Gyroplane, Commercial Glider	2	1	100 %
Commercial Airplane, Commercial Glider, Private Helicopter	24	21	14 %
Commercial Airplane, Commercial Gyroplane, Commercial Helicopter Commercial Glider	11	13	-15 %
<b>Airline Transport Pilots—Total</b>	<b>102,087</b>	<b>96,968</b>	<b>5 %</b>
Airline Transport Airplane	100,317	95,282	5 %
Airline Transport Airplane, Airline Transport Helicopter	1,770	1,686	5 %
<b>Rotorcraft Pilots—Total</b>	<b>5,742</b>	<b>5,781</b>	<b>-1 %</b>
Commercial Helicopter	5,695	6,957	-1 %
Airline Transport Helicopter	71	75	-5 %
Rotorcraft Other	11	11	0 %

**TABLE 7.13**  
**ESTIMATED INSTRUMENT RATINGS HELD,**  
**BY CLASS OF CERTIFICATES, BY FAA REGION:**  
**DECEMBER 31, 1989**

Class of Certificate	Total <sup>1</sup>	Alaskan	Central	Eastern	Great Lakes	New England	North-west Mountain	South-ern	South-west	Western Pacific	Outside U.S. <sup>2</sup>
<b>Total—all groups</b>	<b>282,804</b>	<b>3,442</b>	<b>12,703</b>	<b>36,438</b>	<b>41,754</b>	<b>12,663</b>	<b>25,540</b>	<b>56,610</b>	<b>35,179</b>	<b>47,921</b>	<b>12,554</b>
<b>Private Pilots—Total</b>	<b>51,067</b>	<b>341</b>	<b>2,848</b>	<b>7,218</b>	<b>9,726</b>	<b>2,600</b>	<b>3,897</b>	<b>8,917</b>	<b>5,667</b>	<b>9,394</b>	<b>459</b>
Private Airplane (only)	46,859	285	2,632	6,561	9,237	2,407	3,541	7,898	5,175	8,713	410
Private Airplane, Private Glider	1,023	5	33	164	154	60	69	166	103	256	13
Private Airplane, Commercial Glider	119	2	4	18	14	14	22	8	15	21	1
Private Airplane, Private Helicopter	403	1	18	54	50	27	38	80	53	76	6
Private Airplane, Private Glider, Private Helicopter	27	0	0	6	5	2	3	3	1	6	1
Private Airplane, Commercial Helicopter	2,606	47	159	410	262	88	219	757	316	320	28
Private Airplane, Private Gyroplane	5	0	2	0	2	1	0	0	0	0	0
Private Airplane, Private Glider Commercial Helicopter	12	0	0	3	0	1	4	2	2	0	0
Private Airplane, Commercial Glider Commercial Helicopter	12	1	0	2	1	0	1	3	2	2	0
Private Airplane, Other	1	0	0	0	1	0	0	0	0	0	0
<b>Commercial Pilots—Total</b>	<b>123,908</b>	<b>1,988</b>	<b>5,935</b>	<b>16,059</b>	<b>18,620</b>	<b>5,177</b>	<b>11,275</b>	<b>23,101</b>	<b>15,631</b>	<b>20,887</b>	<b>5,235</b>
Commercial Airplane (only)	105,402	1,704	5,172	13,410	16,600	4,460	9,480	18,942	13,278	17,421	4,935
Commercial Airplane, Private Glider	1,783	23	84	273	247	62	187	327	183	374	23
Commercial Airplane, Commercial	3,037	24	113	459	440	173	343	465	342	652	26
Commercial Airplane, Private Helicopter	282	5	10	49	45	11	24	44	31	55	8
Commercial Airplane, Commercial Helicopter	12,708	223	529	1,758	1,213	435	1,165	3,200	1,725	2,231	229
Commercial Airplane, Private Glider Commercial Helicopter	136	3	5	22	22	7	14	26	11	23	3
Commercial Airplane, Commercial Glider, Commercial Helicopter	488	5	20	81	39	26	53	92	52	113	7
<b>Airline Transport Pilots—Total</b>	<b>102,087</b>	<b>1,030</b>	<b>3,684</b>	<b>12,182</b>	<b>12,876</b>	<b>4,683</b>	<b>9,976</b>	<b>20,773</b>	<b>13,117</b>	<b>17,009</b>	<b>6,777</b>
Airline Transport Airplane	100,317	992	3,622	11,861	12,713	4,569	9,830	20,428	12,838	16,734	6,730
Airline Transport Airplane, Airline Transport Helicopter	1,770	38	42	321	163	114	146	345	279	275	47
<b>Rotorcraft (only) Pilots—Total</b>	<b>5,742</b>	<b>83</b>	<b>256</b>	<b>979</b>	<b>532</b>	<b>203</b>	<b>392</b>	<b>1,819</b>	<b>764</b>	<b>631</b>	<b>83</b>
Commercial Helicopter	5,660	82	256	966	523	199	386	1,808	745	618	77
Airline Transport Helicopter	71	1	0	10	9	3	6	9	18	9	6
Other	11	0	0	3	0	1	0	2	1	4	0

<sup>1</sup> Includes Outside U.S. total

<sup>2</sup> Outside U.S. includes airmen certificated by FAA who live outside the 50 states or in foreign countries.

**TABLE 7.14**  
**ESTIMATED ACTIVE NONPILOT AIRMEN CERTIFICATES HELD,**  
**BY FAA REGION AND STATE:**  
**DECEMBER 31, 1989 <sup>1</sup>**

FAA Region and State	Total Nonpilot Airmen	Mechanic	Parachute Rigger	Ground Instructor	Dispatcher	Flight Navigator	Flight Engineer
<b>Total <sup>2</sup></b>	<b>467,979</b>	<b>325,961</b>	<b>9,875</b>	<b>64,460</b>	<b>10,428</b>	<b>1,365</b>	<b>55,890</b>
<b>United States—Total</b>	<b>446,581</b>	<b>311,428</b>	<b>9,710</b>	<b>62,770</b>	<b>8,439</b>	<b>1,271</b>	<b>52,963</b>
<b>Alaskan Region—Total</b>	<b>4,676</b>	<b>3,254</b>	<b>154</b>	<b>732</b>	<b>169</b>	<b>4</b>	<b>363</b>
<b>Central—Total</b>	<b>23,091</b>	<b>17,817</b>	<b>435</b>	<b>3,206</b>	<b>157</b>	<b>12</b>	<b>1,464</b>
Iowa	2,847	2,095	90	535	8	0	119
Kansas	6,337	4,883	113	952	43	4	342
Missouri	11,958	9,405	166	1,388	101	4	894
Nebraska	1,949	1,434	66	331	5	4	109
<b>Eastern—Total</b>	<b>65,679</b>	<b>47,108</b>	<b>1,682</b>	<b>8,842</b>	<b>2,014</b>	<b>217</b>	<b>5,816</b>
Delaware	1,235	888	27	158	17	5	140
District of Columbia	334	202	20	82	15	0	15
Maryland	4,307	2,613	141	855	64	10	624
New Jersey	11,212	7,889	238	1,368	352	58	1,307
New York	25,065	19,732	401	2,635	1,114	62	1,121
Pennsylvania	15,247	11,112	366	2,184	304	44	1,237
Virginia	7,268	3,982	441	1,341	143	38	1,323
West Virginia	1,011	690	48	219	5	0	49
<b>Great Lakes—Total</b>	<b>60,834</b>	<b>41,678</b>	<b>1,238</b>	<b>10,103</b>	<b>1,027</b>	<b>37</b>	<b>6,751</b>
Illinois	16,559	10,826	279	2,586	333	14	2,521
Indiana	6,091	4,316	190	1,005	74	5	501
Michigan	9,805	6,888	190	1,898	109	7	713
Minnesota	10,535	7,133	140	1,256	329	2	1,675
North Dakota	964	742	26	154	3	0	39
Ohio	11,205	7,944	260	2,080	124	4	793
South Dakota	981	693	22	208	2	1	55
Wisconsin	4,694	3,136	131	916	53	4	454
<b>New England—Total</b>	<b>19,268</b>	<b>13,208</b>	<b>350</b>	<b>2,763</b>	<b>259</b>	<b>157</b>	<b>2,533</b>
Connecticut	5,831	3,761	81	779	81	101	1,028
Maine	1,388	905	45	242	28	8	160
Massachusetts	8,547	6,633	165	1,079	94	13	563
New Hampshire	2,040	953	31	370	31	27	628
Rhode Island	823	562	18	156	10	3	74
Vermont	639	392	10	137	15	5	80
<b>Northwest-Mountain—Total</b>	<b>40,102</b>	<b>25,678</b>	<b>1,324</b>	<b>5,914</b>	<b>536</b>	<b>142</b>	<b>6,508</b>
Colorado	12,287	7,439	162	1,891	215	27	2,553
Idaho	1,742	1,143	161	311	9	4	114
Montana	2,039	1,286	281	358	5	3	106
Oregon	4,328	2,995	243	716	43	26	305
Utah	3,109	1,908	81	440	19	5	656
Washington	15,553	10,118	363	2,045	235	75	2,717
Wyoming	1,044	789	33	153	10	2	57
<b>Southern—Total</b>	<b>82,478</b>	<b>54,682</b>	<b>1,887</b>	<b>11,188</b>	<b>1,958</b>	<b>237</b>	<b>12,526</b>
Alabama	6,104	4,851	135	897	12	9	200
Florida	37,765	25,900	560	5,045	1,187	185	4,888
Georgia	16,720	10,762	287	1,543	313	13	3,802
Kentucky	3,090	1,848	161	479	106	1	495
Mississippi	1,820	1,256	44	373	9	3	135
North Carolina	7,574	4,463	436	1,223	135	14	1,303
South Carolina	2,896	1,861	92	547	24	2	370
Tennessee	6,509	3,741	172	1,081	172	10	1,333
<b>Southwest—Total</b>	<b>61,726</b>	<b>44,148</b>	<b>999</b>	<b>8,446</b>	<b>824</b>	<b>73</b>	<b>7,236</b>
Arkansas	2,510	1,800	72	447	17	1	173
Louisiana	4,820	3,627	92	655	48	5	393
New Mexico	2,221	1,476	69	505	25	3	143
Oklahoma	13,885	11,949	161	1,362	35	7	371
Texas	38,290	25,296	605	5,477	699	57	6,156
<b>Western-Pacific—Total</b>	<b>88,727</b>	<b>63,857</b>	<b>1,641</b>	<b>11,576</b>	<b>1,495</b>	<b>392</b>	<b>9,766</b>
Arizona	9,605	6,707	197	1,583	240	20	858
California	73,029	53,243	1,330	9,084	1,063	306	8,003
Hawaii	3,185	2,249	57	381	143	10	345
Nevada	2,908	1,658	57	528	49	56	560
<b>Outside U.S.—Total <sup>3</sup></b>	<b>21,398</b>	<b>14,533</b>	<b>165</b>	<b>1,890</b>	<b>1,989</b>	<b>94</b>	<b>2,927</b>
<b>Other U.S. Areas—Total</b>	<b>1,601</b>	<b>1,210</b>	<b>34</b>	<b>203</b>	<b>57</b>	<b>1</b>	<b>96</b>
American Samoa	13	8	0	4	0	0	1
Canal Zone	39	15	18	3	2	0	1
Guam	178	101	3	24	5	0	45
Puerto Rico	1,218	973	11	149	47	1	37
Virgin Island	143	103	2	23	3	0	12
Wake Island	10	10	0	0	0	0	0

<sup>1</sup> Data for flight engineers and flight navigators represent total active ratings held. Data for dispatchers, mechanics, parachute riggers and ground instructors represent total ratings issued to date. These ratings retain their validity.

<sup>2</sup> Includes Outside U.S.

<sup>3</sup> Outside U.S. includes Other U.S. Areas outside the 50 states or in foreign countries.

**TABLE 7.15**  
**ESTIMATED ACTIVE WOMEN NONPILOT CERTIFICATES HELD,**  
**BY FAA REGION AND STATE:**  
**DECEMBER 31, 1989 <sup>1</sup>**

FAA Region and State	Total Nonpilot Women	Mechanic	Parachute Rigger	Ground Instructor	Dispatcher	Flight Navigator	Flight Engineer
<b>Total <sup>2</sup></b>	<b>8,651</b>	<b>2,892</b>	<b>451</b>	<b>3,554</b>	<b>711</b>	<b>1</b>	<b>1,042</b>
<b>United States—Total</b>	<b>8,523</b>	<b>2,877</b>	<b>446</b>	<b>3,490</b>	<b>683</b>	<b>0</b>	<b>1,027</b>
<b>Alaskan Region—Total</b>	<b>137</b>	<b>29</b>	<b>11</b>	<b>49</b>	<b>37</b>	<b>0</b>	<b>11</b>
<b>Central—Total</b>	<b>381</b>	<b>182</b>	<b>18</b>	<b>155</b>	<b>4</b>	<b>0</b>	<b>22</b>
Iowa	82	44	2	33	1	0	2
Kansas	124	68	6	45	0	0	5
Missouri	142	60	7	58	3	0	14
Nebraska	33	10	3	19	0	0	1
<b>Eastern—Total</b>	<b>1,099</b>	<b>258</b>	<b>88</b>	<b>468</b>	<b>152</b>	<b>0</b>	<b>133</b>
Delaware	25	11	2	9	1	0	2
District of Columbia	11	0	1	6	1	0	3
Maryland	93	14	3	49	8	0	19
New Jersey	152	34	6	60	29	0	23
New York	366	105	18	142	76	0	25
Pennsylvania	256	52	25	117	31	0	31
Virginia	171	27	33	76	5	0	30
West Virginia	25	15	0	9	1	0	0
<b>Great Lakes—Total</b>	<b>1,389</b>	<b>466</b>	<b>61</b>	<b>591</b>	<b>103</b>	<b>0</b>	<b>168</b>
Illinois	416	140	15	157	24	0	80
Indiana	140	29	19	58	12	0	22
Michigan	229	67	6	128	13	0	15
Minnesota	174	61	5	51	30	0	27
North Dakota	10	2	0	7	0	0	1
Ohio	291	136	11	117	14	0	13
South Dakota	19	4	0	15	0	0	0
Wisconsin	110	27	5	58	10	0	10
<b>New England—Total</b>	<b>369</b>	<b>123</b>	<b>15</b>	<b>164</b>	<b>21</b>	<b>0</b>	<b>46</b>
Connecticut	126	51	4	43	9	0	19
Maine	34	6	1	18	3	0	6
Massachusetts	134	42	8	67	6	0	11
New Hampshire	47	19	1	18	2	0	7
Rhode Island	15	3	0	9	1	0	2
Vermont	13	2	1	9	0	0	1
<b>Northwest-Mountain—Total</b>	<b>831</b>	<b>287</b>	<b>29</b>	<b>339</b>	<b>40</b>	<b>0</b>	<b>136</b>
Colorado	275	84	1	106	14	0	70
Idaho	33	10	2	18	2	0	1
Montana	36	8	5	22	1	0	0
Oregon	93	18	10	58	3	0	4
Utah	56	18	6	20	2	0	10
Washington	318	142	3	106	16	0	51
Wyoming	20	7	2	9	2	0	0
<b>Southern—Total</b>	<b>1,528</b>	<b>419</b>	<b>122</b>	<b>623</b>	<b>143</b>	<b>0</b>	<b>221</b>
Alabama	142	44	6	89	1	0	2
Florida	632	196	17	253	83	0	83
Georgia	183	64	11	62	11	0	35
Kentucky	106	26	9	33	19	0	19
Mississippi	33	9	2	20	0	0	2
North Carolina	175	33	39	76	7	0	20
South Carolina	55	14	4	24	3	0	10
Tennessee	202	33	34	66	19	0	50
<b>Southwest—Total</b>	<b>1,096</b>	<b>431</b>	<b>48</b>	<b>451</b>	<b>69</b>	<b>0</b>	<b>97</b>
Arkansas	34	12	0	19	0	0	3
Louisiana	97	48	2	37	8	0	2
New Mexico	71	20	3	40	2	0	6
Oklahoma	213	114	8	80	2	0	9
Texas	681	237	35	275	57	0	77
<b>Western-Pacific—Total</b>	<b>1,693</b>	<b>682</b>	<b>54</b>	<b>650</b>	<b>114</b>	<b>0</b>	<b>193</b>
Arizona	205	62	7	98	20	0	18
California	1,374	596	45	505	72	0	156
Hawaii	68	13	0	28	17	0	10
Nevada	46	11	2	19	5	0	9
<b>Outside U.S.—Total <sup>3</sup></b>	<b>128</b>	<b>15</b>	<b>5</b>	<b>64</b>	<b>28</b>	<b>1</b>	<b>15</b>
<b>Other U.S. Areas—Total</b>	<b>16</b>	<b>6</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>4</b>
Guam	5	1	0	1	0	0	3
Puerto Rico	7	4	0	3	0	0	0
Virgin Island	4	1	0	2	0	0	1

<sup>1</sup> Data for flight engineers and flight navigators represent total active ratings held. Data for dispatchers, mechanics, parachute riggers, and ground instructors represent total ratings issued to date. These ratings retain their validity.

<sup>2</sup> Includes Outside U.S.

<sup>3</sup> Outside U.S. includes Other U.S. Areas outside of the 50 states or in foreign countries.

**TABLE 7.16**  
**PILOT CERTIFICATES ISSUED, BY CATEGORY:**  
**1985-1989**

Category of Certificates	1985		1986		1987		1988		1989	
	Original	Additional	Original	Additional	Original	Additional	Original	Additional	Original	Additional
<b>Pilot—Total</b> .....	<b>138,589</b>	<b>28,420</b>	<b>141,632</b>	<b>32,628</b>	<b>149,690</b>	<b>39,990</b>	<b>143,935</b>	<b>37,921</b>	<b>146,951</b>	<b>46,990</b>
Student .....	86,060	0	88,706	0	85,661	0	82,110	0	87,427	0
Private .....	35,402	11,686	34,816	12,672	42,278	16,302	39,900	15,800	35,360	22,240
Commercial .....	8,404	7,197	8,889	9,241	11,314	11,365	12,042	10,597	13,759	11,778
Airline Transport .....	6,081	9,192	6,498	10,372	7,678	11,956	7,461	11,209	7,829	12,698
Helicopter (only) .....	2,105	207	2,209	234	2,217	293	1,947	287	2,240	252
Glider (only) .....	537	138	514	109	542	74	475	28	336	22
<b>Nonpilot—Total</b> .....	<b>16,432</b>	<b>4,713</b>	<b>16,470</b>	<b>5,010</b>	<b>21,878</b>	<b>5,486</b>	<b>21,064</b>	<b>6,107</b>	<b>23,078</b>	<b>7,688</b>
Mechanic .....	10,559	3,429	10,998	3,289	15,089	4,195	14,907	4,353	15,923	5,728
Parachute Rigger .....	157	9	149	11	194	11	142	8	167	21
Ground Instructor .....	1,359	343	1,386	323	1,825	366	1,716	334	2,133	399
Dispatcher .....	622	3	516	1	533	3	510	2	431	5
Flight Navigator .....	1	0	17	0	4	0	17	0	14	0
Flight Engineer .....	3,734	929	3,404	1,386	4,233	911	3,772	1,410	4,410	1,535
<b>Flight Instructor Certificates</b> <sup>1</sup> .....	<b>4,298</b>	<b>5,921</b>	<b>4,628</b>	<b>5,421</b>	<b>6,327</b>	<b>6,378</b>	<b>4,898</b>	<b>5,234</b>	<b>5,365</b>	<b>7,532</b>
<b>Instrument Ratings</b> <sup>2</sup> .....	<b>0</b>	<b>11,673</b>	<b>0</b>	<b>13,688</b>	<b>0</b>	<b>18,296</b>	<b>0</b>	<b>16,810</b>	<b>0</b>	<b>20,911</b>

<sup>1</sup> Not included in total.

<sup>2</sup> Special ratings shown on pilot certificates represented above; not included in total.

NOTE: Additional ratings are entered on current airman certificates as follows: Private, commercial, and airline transport pilot—aircraft category, class, and type instrument rating. Helicopter pilot—instrument and type ratings. Flight instructor—ratings for each aircraft category in which the holder is qualified, and for instrument flying instruction. Mechanic—airframe and powerplant ratings. Parachute rigger—senior or master rigger—senior or master rigger ratings. Ground instructor—ratings for each subject in which the holder is qualified to give instruction. Air traffic control tower operator—junior/senior ratings for airport where holder may control air traffic.

**TABLE 7.17**  
**PILOT CERTIFICATES ISSUED, BY CATEGORY AND CONDUCTOR:**  
**DECEMBER 31, 1989**

Category of Certificates	Total Ratings Issued	Original Issuances				Additional Ratings			
		Total	Examiner	Inspector	No Test	Total	Examiner	Inspector	No Test
<b>Pilot—Total</b> .....	<b>188,842</b>	<b>146,951</b>	<b>47,190</b>	<b>88,109</b>	<b>11,652</b>	<b>41,891</b>	<b>36,771</b>	<b>1,252</b>	<b>3,868</b>
Student .....	87,427	87,427	0	87,427	0	0	0	0	0
Private .....	52,501	35,360	29,218	55	6,087	17,141	16,078	75	988
Commercial .....	25,537	13,759	9,839	120	3,800	11,778	9,999	117	1,662
Airline Transport .....	20,527	7,829	6,750	464	615	12,698	10,483	1,042	1,173
Helicopter (only) .....	2,492	2,240	1,072	37	1,131	252	190	18	44
Glider (only) .....	358	336	311	6	19	22	21	0	1
<b>Nonpilot—Total</b> .....	<b>30,768</b>	<b>23,078</b>	<b>16,965</b>	<b>541</b>	<b>5,572</b>	<b>7,688</b>	<b>4,612</b>	<b>118</b>	<b>2,958</b>
Mechanic .....	21,651	15,923	13,128	78	2,717	5,728	4,170	44	1,514
Parachute Rigger .....	188	167	114	21	32	21	15	1	5
Ground Instructor .....	2,532	2,133	176	13	1,944	399	40	3	356
Dispatcher .....	436	431	261	79	91	5	4	1	0
Flight Navigator .....	14	14	0	1	13	0	0	0	0
Flight Engineer .....	5,945	4,410	3,286	349	775	1,535	383	69	1,083
<b>Flight Instructor</b> <sup>1</sup> .....	<b>12,897</b>	<b>5,365</b>	<b>3,537</b>	<b>1,714</b>	<b>114</b>	<b>7,532</b>	<b>7,058</b>	<b>444</b>	<b>30</b>

<sup>1</sup> Special ratings shown on pilot certificates represented above; not included in total.

NOTE: Excludes Renewals

Additional ratings are entered on current airman certificates as follows: Private, Commercial, and Airline Transport Pilot—Aircraft Category, Class and Type Instrument Rating. Helicopter Pilot—Instrument and Type Ratings. Flight Instructor—Ratings for each aircraft category in which the holder is qualified to instruct, and ratings for instrument flying instruction. Mechanic—Airframe and Powerplant Ratings. Parachute Rigger—Senior Rigger Ratings. Ground Instructor—Ratings for each subject in which the holder is qualified to give ground instruction. Air Traffic Control Tower Operator—Junior/Senior Ratings for airports where holder may control air traffic.



**TABLE 7.18**  
**INSTRUMENT RATINGS ISSUED:**  
**1989, 1988, 1985**

Class of Certificates	1989	1988	1985	Percent Change 1989-1988
<b>Total—All Groups</b> .....	<b>20,911</b>	<b>16,810</b>	<b>11,537</b>	<b>24 %</b>
<b>Private Pilots—Total</b> .....	<b>11,681</b>	<b>9,772</b>	<b>6,887</b>	<b>20 %</b>
Private Airplane (only) .....	10,554	8,946	6,438	18 %
Private Airplane, Private Glider .....	93	92	75	1 %
Private Airplane, Commercial Glider .....	18	18	1	0 %
Private Airplane, Private Helicopter .....	38	40	26	-5 %
Private Airplane, Private Glider, Private Helicopter .....	3	0	0	0 %
Private Airplane, Commercial Helicopter .....	293	272	172	8 %
Private Airplane, Other .....	682	404	175	69 %
<b>Commercial Pilots—Total</b> .....	<b>8,091</b>	<b>6,101</b>	<b>3,493</b>	<b>33 %</b>
Commercial Airplane (only) .....	7,122	5,267	2,751	35 %
Commercial Airplane, Private Glider .....	54	49	29	10 %
Commercial Airplane, Commercial Glider .....	54	41	44	32 %
Commercial Airplane, Private Helicopter .....	12	11	1	9 %
Commercial Airplane, Commercial Helicopter .....	843	723	646	17 %
Commercial Airplane, Private Glider, Commercial Helicopter .....	3	3	10	0 %
Commercial Airplane, Commercial Glider, Commercial Helicopter .....	1	6	11	-83 %
Commercial Airplane, Other .....	2	1	1	100 %
<b>Rotorcraft Pilots—Total</b> .....	<b>1,139</b>	<b>937</b>	<b>1,157</b>	<b>22 %</b>
Commercial Helicopter .....	1,113	909	1,156	22 %
Commercial Helicopter, Airline Transport Helicopter .....	17	22	0	-23 %
Commercial Helicopter, Private Glider .....	0	0	1	0 %
Commercial Helicopter, Other .....	9	6	0	50 %

**TABLE 7.19**  
**STUDENT CERTIFICATES ISSUED, BY MONTH:**  
**1985-1989**

Month	1985	1986	1987	1988	1989
<b>Total</b> .....	<b>86,060</b>	<b>288,706</b>	<b>85,661</b>	<b>82,110</b>	<b>87,427</b>
January .....	6,414	6,641	6,098	5,410	7,789
February .....	5,233	5,590	6,543	6,157	7,156
March .....	6,809	6,472	7,125	7,133	6,833
April .....	7,492	7,488	7,139	6,606	6,059
May .....	7,749	7,415	6,164	7,014	6,870
June .....	8,279	8,211	8,491	8,539	8,675
July .....	9,249	9,648	8,973	7,796	8,305
August .....	8,892	8,886	8,389	8,981	8,974
September .....	7,973	8,961	8,109	7,624	8,080 <sup>1</sup>
October .....	7,892	8,133	7,585	7,133	7,616 <sup>1</sup>
November .....	5,579	5,809	5,912	6,086	6,203 <sup>1</sup>
December .....	4,499	5,452	5,133	3,631	4,865 <sup>1</sup>

<sup>1</sup> Revised

## VIII. GENERAL AVIATION AIRCRAFT

General aviation aircraft activity information was obtained using the General Aviation Activity and Avionics Survey, which is mailed to the owners of a sample of registered general aviation aircraft. The sample is a scientifically designed random sample which represents all general aviation aircraft registered in the United States.

The survey collects data relative to flight hours, airframe hours and the avionics equipment on board the aircraft. In addition, the survey collects information about the number of hours flown under instrument flight rules, fuel consumption rates, and the state where the aircraft is based.

Because the estimates are derived from a sample—not the total population of aircraft—a certain amount of sampling error is introduced. The user must consider this error along with the estimate itself when making an inference or drawing any conclusions about the aircraft population. Although the exact value of the sample error is unknown, a quantity known as the standard error is used to approximate it. Using the standard error, one can develop an interval within which the true population estimate will lie with a known probability. The probability that the true value lies within the interval depends on the width of the interval, i.e., the estimate plus or minus 1, 2, or 3 times the standard error. The table below shows selected interval widths and their corresponding confidence.

Width of Interval	Approximate Confidence That Interval Includes True Value
1 standard error	68%
2 standard errors	95%
3 standard errors	99%

For example, if the estimate for the total number of active piston powered rotorcraft were 2,658 and the standard error was 176, then the 95% confidence interval would be  $2,658 + 2(176)$  or (2306, 3010). One would say that there is a 95% chance that the number of active piston powered rotorcraft lies between 2306 and 3010.

In some tables, the standard error is expressed as a percent. To calculate the standard error, multiply the estimated by the percentage. To derive the 95% confidence interval, proceed as before. For example, if total hours flown were 35,792 thousand hours and the percentage standard error was 3.0%, the 95% confidence interval would be:

$$35,792 + (2 \times 3\% \times 35,792) = 35,792 \pm 2148 = (33,644: 37,940)$$

The standard error, percent standard error, or a code for the standard error is shown for each estimate made from the sample in this chapter.

More detailed estimates and more detailed discussion of the survey and its methodology are available in *General Aviation Activity and Avionics Survey*.

**TABLE 8.1**  
**ACTIVE GENERAL AVIATION AIRCRAFT**  
**BY AIRCRAFT TYPE AND PRIMARY USE**  
**1989**

(Percent standard error is shown in parenthesis)

Aircraft Type	Total	Corporate	Business	Personal	Instructional	Aerial Application	Aerial Observation	Other Work	Commuter Air Carrier	Air Taxi	Other
<b>Fixed-Wing--Total</b> .....	<b>204,541</b> (0.5%)	<b>11,526</b> (3.9%)	<b>36,987</b> (2.7%)	<b>117,992</b> (1.1%)	<b>16,541</b> (4.7%)	<b>6,261</b> (3.5%)	<b>4,165</b> (9.3%)	<b>1,131</b> (16.8%)	<b>1,324</b> (11.6%)	<b>5,486</b> (7.0%)	<b>3,125</b> (9.7%)
<b>Piston--Total</b> .....	<b>193,815</b> (0.5%)	<b>4,919</b> (8.0%)	<b>36,032</b> (2.8%)	<b>117,719</b> (1.1%)	<b>16,430</b> (4.7%)	<b>6,125</b> (3.6%)	<b>4,056</b> (9.4%)	<b>1,096</b> (17.1%)	<b>631</b> (19.1%)	<b>4,431</b> (8.0%)	<b>2,374</b> (11.9%)
One Engine .....	170,370 (0.6%)	1,799 (14.9%)	28,532 (3.2%)	110,838 (1.1%)	14,858 (5.0%)	5,780 (3.4%)	3,547 (10.2%)	1,018 (18.1%)	143 (39.7%)	1,753 (14.1%)	2,103 (13.0%)
Two Engine .....	23,359 (1.2%)	3,117 (9.2%)	7,485 (5.4%)	6,875 (5.8%)	1,572 (14.2%)	315 (28.8%)	509 (24.5%)	75 (45.6%)	472 (22.4%)	2,673 (9.5%)	262 (27.0%)
Other Piston .....	86 (33.8%)	3 (146.1%)	15 (69.1%)	6 (96.4%)	0 (0.0%)	30 (29.4%)	0 (0.0%)	2 (151.9%)	15 (69.1%)	5 (104.9%)	9 (72.1%)
<b>Turboprop--Total</b> .....	<b>6,324</b> (1.5%)	<b>3,412</b> (5.2%)	<b>695</b> (15.8%)	<b>159</b> (35.8%)	<b>86</b> (42.8%)	<b>136</b> (17.6%)	<b>60</b> (72.0%)	<b>21</b> (146.4%)	<b>662</b> (14.0%)	<b>689</b> (16.9%)	<b>404</b> (20.6%)
Two Engine .....	6,093 (1.5%)	3,397 (5.2%)	684 (16.0%)	152 (37.2%)	85 (43.2%)	7 (358.4%)	46 (92.9%)	20 (159.4%)	662 (14.0%)	656 (17.7%)	387 (21.4%)
Other Turboprop .....	230 (14.2%)	15 (67.2%)	11 (83.0%)	7 (92.5%)	1 (289.9%)	129 (3.1%)	14 (50.0%)	2 (156.9%)	0 (0.0%)	33 (35.1%)	17 (43.7%)
<b>Turbojet--Total</b> .....	<b>4,402</b> (1.5%)	<b>3,194</b> (3.5%)	<b>259</b> (22.7%)	<b>114</b> (34.9%)	<b>25</b> (91.2%)	<b>0</b> (0.0%)	<b>50</b> (49.2%)	<b>14</b> (84.1%)	<b>32</b> (66.8%)	<b>367</b> (20.0%)	<b>347</b> (20.9%)
Two Engine .....	4,004 (1.4%)	2,935 (3.7%)	240 (23.7%)	109 (35.6%)	25 (91.2%)	0 (0.0%)	24 (62.5%)	14 (84.1%)	32 (66.8%)	366 (20.1%)	260 (25.8%)
Other Turbojet .....	398 (8.2%)	259 (10.8%)	19 (78.2%)	5 (172.7%)	0 (0.0%)	0 (0.0%)	26 (74.7%)	0 (0.0%)	0 (0.0%)	1 (179.2%)	87 (31.6%)
<b>Rotorcraft--Total</b> .....	<b>7,475</b> (0.6%)	<b>727</b> (2.7%)	<b>416</b> (4.0%)	<b>1,068</b> (2.7%)	<b>694</b> (3.2%)	<b>832</b> (3.3%)	<b>1,297</b> (2.1%)	<b>363</b> (4.7%)	<b>21</b> (12.3%)	<b>1,629</b> (1.7%)	<b>429</b> (5.1%)
Piston 3,244 .....	44 (1.2%)	193 (13.6%)	915 (6.3%)	551 (2.9%)	609 (3.3%)	561 (3.8%)	132 (3.3%)	0 (9.2%)	121 (0.0%)	118 (10.0%)	109 (10.9%)
Turbine .....	4,232 (0.4%)	682 (2.7%)	223 (5.2%)	153 (6.8%)	144 (9.0%)	223 (6.1%)	735 (2.6%)	231 (5.2%)	21 (12.3%)	1,508 (1.6%)	311 (5.7%)
<b>Other--Total</b> .....	<b>7,721</b> (2.4%)	<b>33</b> (75.7%)	<b>104</b> (43.3%)	<b>5,725</b> (3.0%)	<b>545</b> (16.0%)	<b>0</b> (0.0%)	<b>322</b> (26.6%)	<b>645</b> (18.9%)	<b>99</b> (56.2%)	<b>0</b> (0.0%)	<b>248</b> (24.5%)
<b>Total All Aircraft</b> .....	<b>219,737</b> (0.5%)	<b>12,285</b> (3.6%)	<b>37,507</b> (2.7%)	<b>124,786</b> (1.0%)	<b>17,780</b> (4.4%)	<b>7,093</b> (3.1%)	<b>5,784</b> (6.8%)	<b>2,139</b> (10.6%)	<b>1,444</b> (11.3%)	<b>7,115</b> (5.4%)	<b>3,802</b> (8.1%)

NOTE: Columns may not add to totals due to rounding and estimation procedures.

**TABLE 8.2**  
**ACTIVE GENERAL AVIATION AIRCRAFT**  
**BY AIRCRAFT TYPE**  
**1980-1989**  
(Percent Standard error is shown in parenthesis)

Aircraft Type	1989	1988	1987	1986	1985	1984	1983	1982	1981	1980
<b>Fixed-Wing--Total</b> .....	<b>204,541</b> (0.5%)	<b>197,003</b> (0.6%)	<b>204,067</b> (0.5%)	<b>206,090</b> (0.5%)	<b>197,974</b> (0.6%)	<b>207,571</b> (0.5%)	<b>200,831</b> (0.7%)	<b>198,377</b> (0.6%)	<b>201,201</b> (0.5%)	<b>200,097</b> (0.5%)
<b>Piston--Total</b> .....	<b>193,815</b> (0.5%)	<b>187,556</b> (0.6%)	<b>194,455</b> (0.5%)	<b>195,646</b> (0.6%)	<b>188,191</b> (0.6%)	<b>197,442</b> (0.5%)	<b>191,480</b> (0.7%)	<b>189,195</b> (0.6%)	<b>193,370</b> (0.5%)	<b>193,014</b> (0.5%)
One Engine.....	170,370 (0.6%)	164,760 (0.6%)	171,035 (0.6%)	171,777 (0.6%)	164,385 (0.7%)	171,922 (0.5%)	166,247 (0.8%)	164,173 (0.7%)	167,898 (0.6%)	168,435 (0.5%)
Two Engine.....	23,359 (1.2%)	22,698 (1.4%)	23,307 (1.3%)	23,721 (1.6%)	23,659 (1.5%)	25,258 (1.2%)	24,910 (1.4%)	24,882 (1.4%)	25,356 (1.2%)	24,366 (1.2%)
Other Piston.....	86 (33.8%)	99 (21.7%)	112 (25.0%)	148 (24.3%)	148 (20.9%)	262 (13.4%)	143 (9.8%)	140 (17.1%)	114 (25.4%)	212 (8.0%)
<b>Turboprop--Total</b> .....	<b>6,324</b> (1.5%)	<b>5,259</b> (1.7%)	<b>5,274</b> (1.9%)	<b>5,964</b> (1.9%)	<b>5,407</b> (2.1%)	<b>5,809</b> (1.0%)	<b>5,453</b> (1.7%)	<b>5,186</b> (1.2%)	<b>4,660</b> (1.1%)	<b>4,090</b> (1.1%)
Two Engine.....	6,093 (1.5%)	5,057 (1.8%)	5,060 (1.9%)	5,779 (1.9%)	5,240 (2.1%)	5,633 (1.0%)	5,311 (1.6%)	5,037 (1.1%)	4,525 (1.1%)	3,966 (1.1%)
Other Turboprop.....	230 (14.2%)	202 (7.1%)	214 (8.9%)	185 (16.2%)	167 (7.8%)	176 (8.5%)	142 (26.8%)	149 (18.8%)	134 (3.7%)	123 (8.1%)
<b>Turbojet--Total</b> .....	<b>4,402</b> (1.5%)	<b>4,187</b> (2.0%)	<b>4,338</b> (1.5%)	<b>4,480</b> (2.2%)	<b>4,375</b> (1.7%)	<b>4,320</b> (1.6%)	<b>3,898</b> (3.3%)	<b>3,996</b> (2.8%)	<b>3,171</b> (2.3%)	<b>2,992</b> (1.3%)
Two Engine.....	4,004 (1.4%)	3,821 (2.1%)	3,900 (1.6%)	4,037 (1.6%)	3,914 (1.7%)	3,780 (1.3%)	3,447 (2.7%)	3,309 (2.5%)	2,808 (2.4%)	2,551 (1.5%)
Other Turbojet.....	398 (8.2%)	367 (5.5%)	438 (5.0%)	444 (16.2%)	460 (7.2%)	540 (26.9%)	451 (20.2%)	687 (10.6%)	362 (6.4%)	441 (2.9%)
<b>Rotorcraft--Total</b> .....	<b>7,475</b> (0.6%)	<b>6,406</b> (3.6%)	<b>6,333</b> (3.2%)	<b>6,943</b> (3.1%)	<b>6,418</b> (4.0%)	<b>7,096</b> (3.1%)	<b>6,540</b> (3.7%)	<b>6,169</b> (3.7%)	<b>6,974</b> (2.7%)	<b>6,001</b> (2.4%)
Piston.....	3,244 (1.2%)	2,584 (7.9%)	2,813 (5.0%)	2,921 (6.0%)	2,877 (7.0%)	2,936 (6.3%)	2,541 (7.5%)	2,419 (7.4%)	3,250 (5.3%)	2,794 (4.8%)
Turbine.....	4,232 (0.4%)	3,822 (2.7%)	3,520 (4.2%)	4,022 (3.1%)	3,541 (4.5%)	4,160 (2.8%)	3,998 (3.8%)	3,749 (3.7%)	3,724 (2.0%)	3,207 (1.5%)
<b>Other--Total</b> .....	<b>7,721</b> (2.4%)	<b>6,857</b> (4.1%)	<b>6,783</b> (3.4%)	<b>7,010</b> (3.0%)	<b>6,263</b> (3.3%)	<b>6,275</b> (2.7%)	<b>5,923</b> (3.5%)	<b>5,233</b> (4.0%)	<b>5,049</b> (3.5%)	<b>4,945</b> (2.9%)
<b>Total All Aircraft</b> .....	<b>219,737</b> (0.5%)	<b>210,266</b> (0.5%)	<b>217,183</b> (0.5%)	<b>220,044</b> (0.5%)	<b>210,654</b> (0.6%)	<b>220,943</b> (0.5%)	<b>213,293</b> (0.6%)	<b>209,779</b> (0.6%)	<b>213,226</b> (0.5%)	<b>211,045</b> (0.4%)

NOTE: Columns may not add to totals due to rounding and estimation procedures.

**TABLE 8.3**  
**ACTIVE GENERAL AVIATION AIRCRAFT TOTAL HOURS FLOWN,**  
**BY AIRCRAFT TYPE AND PRIMARY USE**  
**1989**  
(Percent standard error is shown in parenthesis)

Aircraft Type	Total	Corporate	Business	Personal	Instructional	Aerial Application	Aerial Observation	Other Work	Commuter Air Carrier	Air Taxi	Other
<b>Fixed-Wing--Total</b> .....	<b>31,757,544</b> (1.7%)	<b>3,465,819</b> (4.4%)	<b>4,629,867</b> (3.5%)	<b>10,015,830</b> (2.6%)	<b>6,154,371</b> (6.4%)	<b>1,786,362</b> (5.9%)	<b>1,203,410</b> (12.6%)	<b>331,996</b> (19.5%)	<b>1,488,417</b> (11.6%)	<b>2,271,281</b> (7.9%)	<b>410,200</b> (11.0%)
<b>Piston--Total</b> .....	<b>26,971,488</b> (1.9%)	<b>978,411</b> (9.9%)	<b>4,413,350</b> (3.6%)	<b>9,944,722</b> (2.6%)	<b>6,125,218</b> (6.4%)	<b>1,699,318</b> (6.1%)	<b>1,158,485</b> (12.9%)	<b>311,033</b> (20.3%)	<b>418,619</b> (19.9%)	<b>1,758,245</b> (9.1%)	<b>164,093</b> (16.9%)
One Engine .....	22,306,894 (2.2%)	323,012 (19.0%)	3,308,700 (4.3%)	9,064,320 (2.7%)	5,667,939 (6.8%)	1,660,675 (6.0%)	1,049,921 (13.8%)	292,243 (21.4%)	86,055 (44.7%)	707,069 (16.2%)	146,958 (18.3%)
Two Engine .....	4,648,026 (3.3%)	655,393 (11.3%)	1,103,009 (6.9%)	879,488 (8.8%)	457,280 (16.2%)	34,190 (34.6%)	108,565 (35.7%)	18,741 (43.2%)	323,626 (22.7%)	1,051,128 (10.5%)	16,607 (30.5%)
Other Piston .....	16,575 (67.3%)	5 (146.1%)	1,642 (69.1%)	913 (111.4%)	0 (0.0%)	4,454 (38.4%)	0 (0.0%)	48 (151.9%)	8,938 (69.1%)	48 (104.9%)	527 (91.8%)
<b>Turboprop--Total</b> .....	<b>3,131,961</b> (5.0%)	<b>1,292,482</b> (6.1%)	<b>144,602</b> (16.8%)	<b>42,119</b> (35.1%)	<b>28,184</b> (47.9%)	<b>87,044</b> (22.2%)	<b>29,328</b> (70.8%)	<b>17,932</b> (117.2%)	<b>1,061,206</b> (15.4%)	<b>296,808</b> (17.9%)	<b>132,257</b> (23.6%)
Two Engine .....	3,005,682 (5.2%)	1,289,286 (6.1%)	143,960 (17.0%)	41,599 (36.2%)	23,725 (49.6%)	4,511 (358.4%)	16,840 (93.6%)	17,017 (125.5%)	1,061,206 (15.4%)	278,522 (18.7%)	129,522 (24.4%)
Other Turboprop .....	126,279 (16.6%)	3,196 (70.2%)	641 (82.5%)	520 (98.9%)	4,459 (289.9%)	82,533 (14.4%)	12,488 (53.4%)	915 (156.9%)	0 (0.0%)	18,792 (40.6%)	2,736 (51.0%)
<b>Turbojet--Total</b> .....	<b>1,654,096</b> (3.7%)	<b>1,194,926</b> (4.5%)	<b>71,915</b> (23.8%)	<b>28,988</b> (43.3%)	<b>969</b> (71.3%)	<b>0</b> (0.0%)	<b>15,597</b> (46.6%)	<b>3,031</b> (94.5%)	<b>8,555</b> (80.7%)	<b>216,227</b> (25.1%)	<b>113,850</b> (22.9%)
Two Engine .....	1,542,156 (3.9%)	1,100,014 (4.7%)	65,819 (24.9%)	28,631 (44.2%)	969 (71.3%)	0 (0.0%)	9,745 (62.5%)	3,031 (94.5%)	8,593 (80.7%)	215,755 (25.2%)	109,599 (27.6%)
Other Turbojet .....	111,940 (12.2%)	94,912 (13.1%)	6,097 (78.6%)	357 (172.7%)	0 (0.0%)	0 (0.0%)	5,852 (74.7%)	0 (0.0%)	0 (0.0%)	472 (179.2%)	4,251 (83.9%)
<b>Rotorcraft--Total</b> .....	<b>2,825,981</b> (0.9%)	<b>268,269</b> (3.4%)	<b>53,397</b> (5.2%)	<b>69,867</b> (4.6%)	<b>271,932</b> (4.0%)	<b>236,410</b> (4.2%)	<b>625,449</b> (2.7%)	<b>167,354</b> (6.4%)	<b>14,378</b> (14.6%)	<b>998,858</b> (2.0%)	<b>124,758</b> (5.9%)
Piston .....	749,410 (2.1%)	12,415 (32.6%)	18,161 (8.8%)	50,099 (5.6%)	226,537 (4.2%)	168,395 (5.2%)	211,362 (4.8%)	28,492 (17.6%)	0 (0.0%)	20,172 (12.4%)	10,323 (14.0%)
Turbine .....	2,076,571 (0.9%)	255,854 (3.2%)	35,237 (6.3%)	19,768 (8.5%)	45,395 (10.4%)	68,015 (6.8%)	414,086 (3.2%)	138,863 (6.7%)	14,378 (14.6%)	978,686 (1.9%)	114,435 (6.5%)
<b>Other--Total</b> .....	<b>428,680</b> (7.4%)	<b>5,217</b> (81.5%)	<b>6,023</b> (46.1%)	<b>242,087</b> (5.9%)	<b>63,151</b> (22.4%)	<b>0</b> (0.0%)	<b>32,626</b> (29.4%)	<b>60,283</b> (58.7%)	<b>4,798</b> (59.1%)	<b>0</b> (0.0%)	<b>14,497</b> (26.1%)
<b>Total All Aircraft</b> .....	<b>35,012,180</b> (1.6%)	<b>3,739,305</b> (4.2%)	<b>4,689,287</b> (3.5%)	<b>10,327,786</b> (2.5%)	<b>6,489,455</b> (6.1%)	<b>2,022,772</b> (5.2%)	<b>1,861,485</b> (8.9%)	<b>559,633</b> (13.5%)	<b>1,507,592</b> (11.1%)	<b>3,270,139</b> (6.0%)	<b>549,455</b> (9.0%)

NOTE: Columns may not add to totals due to rounding and estimation procedures.

**TABLE 8.4**  
**ACTIVE GENERAL AVIATION AIRCRAFT**  
**TOTAL HOURS FLOWN, BY AIRCRAFT TYPE**  
**1980-1989**  
(Hours in Thousands)  
(Percent Standard Error is shown in parenthesis)

Aircraft Type	1989	1988	1987	1986	1985	1984	1983	1982	1981	1980
<b>Fixed-Wing --Total</b>	<b>31,758</b> (1.7%)	<b>30,274</b> (1.8%)	<b>30,744</b> (1.7%)	<b>31,397</b> (1.7%)	<b>31,495</b> (1.7%)	<b>33,265</b> (2.1%)	<b>32,558</b> (2.1%)	<b>33,728</b> (1.9%)	<b>37,628</b> (1.7%)	<b>38,318</b> (1.7%)
<b>Piston--Total</b>	<b>26,971</b> (1.9%)	<b>26,226</b> (2.0%)	<b>27,039</b> (1.9%)	<b>26,861</b> (1.9%)	<b>27,793</b> (1.9%)	<b>29,194</b> (1.8%)	<b>28,911</b> (2.3%)	<b>29,950</b> (2.2%)	<b>34,086</b> (1.8%)	<b>34,747</b> (1.8%)
One Engine	22,307 (2.2%)	21,946 (2.2%)	22,141 (2.0%)	21,939 (2.1%)	22,851 (2.1%)	23,506 (2.1%)	23,149 (2.6%)	24,259 (2.5%)	27,692 (2.1%)	28,339 (2.1%)
Two Engine	4,648 (3.3%)	4,257 (4.1%)	4,883 (5.2%)	4,911 (4.6%)	4,915 (4.1%)	5,585 (3.6%)	5,730 (5.3%)	5,657 (4.7%)	6,369 (3.3%)	6,277 (3.6%)
Other Piston	17 (67.3%)	22 (44.5%)	15 (33.3%)	11 (45.5%)	26 (34.6%)	102 (29.4%)	32 (31.2%)	33 (30.3%)	25 (24.0%)	130 (13.8%)
<b>Turboprop--Total</b>	<b>3,132</b> (5.0%)	<b>2,370</b> (5.0%)	<b>2,177</b> (5.0%)	<b>2,882</b> (5.1%)	<b>2,080</b> (4.6%)	<b>2,506</b> (4.7%)	<b>2,173</b> (7.1%)	<b>2,168</b> (6.7%)	<b>2,155</b> (3.8%)	<b>2,240</b> (3.5%)
Two Engine	3,006 (5.2%)	2,286 (5.1%)	1,994 (5.0%)	2,797 (5.3%)	2,016 (4.8%)	2,452 (4.7%)	2,090 (7.2%)	2,096 (6.8%)	2,092 (3.9%)	2,138 (3.6%)
Other Turboprop	126 (16.6%)	84 (14.9%)	183 (24.6%)	85 (14.1%)	64 (10.9%)	54 (25.9%)	83 (37.3%)	71 (28.2%)	63 (17.5%)	56 (17.9%)
<b>Turbojet--Total</b>	<b>1,654</b> (3.7%)	<b>1,678</b> (4.4%)	<b>1,528</b> (3.9%)	<b>1,654</b> (4.7%)	<b>1,622</b> (4.4%)	<b>1,566</b> (4.7%)	<b>1,473</b> (6.6%)	<b>1,611</b> (6.8%)	<b>1,387</b> (3.6%)	<b>1,332</b> (4.4%)
Two Engine	1,542 (3.9%)	1,548 (4.7%)	1,421 (4.2%)	1,566 (4.9%)	1,461 (4.8%)	1,328 (5.0%)	1,350 (6.8%)	1,347 (7.3%)	1,238 (3.9%)	1,163 (4.5%)
Other Turbojet	112 (12.2%)	130 (10.9%)	107 (10.3%)	98 (19.4%)	161 (10.6%)	237 (13.9%)	124 (25.0%)	264 (17.4%)	149 (10.7%)	169 (16.0%)
<b>Rotorcraft--Total</b>	<b>2,826</b> (0.9%)	<b>2,707</b> (6.5%)	<b>2,283</b> (7.4%)	<b>2,625</b> (6.7%)	<b>2,155</b> (7.7%)	<b>2,495</b> (5.5%)	<b>2,271</b> (7.0%)	<b>2,350</b> (6.6%)	<b>2,685</b> (6.9%)	<b>2,338</b> (5.9%)
Piston	749 (2.1%)	576 (11.6%)	652 (9.2%)	804 (12.8%)	564 (15.1%)	592 (11.3%)	572 (8.6%)	579 (10.0%)	930 (11.6%)	736 (10.2%)
Turbine	2,077 (0.9%)	2,131 (7.6%)	1,631 (9.6%)	1,821 (7.7%)	1,590 (8.9%)	1,903 (6.4%)	1,700 (8.9%)	1,771 (8.2%)	1,754 (8.6%)	1,603 (7.2%)
<b>Other--Total</b>	<b>429</b> (7.4%)	<b>613</b> (24.2%)	<b>416</b> (6.0%)	<b>394</b> (7.6%)	<b>414</b> (8.2%)	<b>358</b> (6.7%)	<b>420</b> (11.7%)	<b>379</b> (10.6%)	<b>391</b> (8.7%)	<b>359</b> (5.8%)
<b>Total All Aircraft</b>	<b>35,012</b> (1.6%)	<b>33,593</b> (1.7%)	<b>33,443</b> (1.7%)	<b>34,416</b> (1.6%)	<b>34,063</b> (1.6%)	<b>36,119</b> (1.6%)	<b>35,249</b> (2.0%)	<b>36,457</b> (1.9%)	<b>40,704</b> (1.6%)	<b>41,016</b> (1.6%)

NOTE: Columns may not add to totals due to rounding and estimation procedures.

**TABLE 8.5**  
**ACTIVE GENERAL AVIATION AIRCRAFT**  
**AVERAGE HOURS FLOWN, BY AIRCRAFT TYPE**  
**1980-1989**  
(Percent Standard error is shown in parenthesis)

Aircraft Type	1989	1988	1987	1986	1985	1984	1983	1982	1981	1980
<b>Fixed-Wing --Total</b>	<b>150.1</b> (1.7%)	<b>148.0</b> (1.8%)	<b>145.6</b> (1.7%)	<b>145.1</b> (1.7%)	<b>155.5</b> (1.7%)	<b>156.0</b> (1.7%)	<b>160.9</b> (2.1%)	<b>170.6</b> (2.0%)	<b>184.4</b> (1.7%)	<b>187.7</b> (1.7%)
<b>Piston--Total</b>	<b>137.9</b> (1.9%)	<b>138.2</b> (1.9%)	<b>136.9</b> (1.8%)	<b>135.4</b> (1.8%)	<b>147.1</b> (1.8%)	<b>147.1</b> (1.8%)	<b>150.6</b> (2.3%)	<b>159.8</b> (2.1%)	<b>175.4</b> (1.8%)	<b>178.2</b> (1.7%)
One Engine	131.2 (2.2%)	133.4 (2.2%)	129.4 (2.0%)	127.8 (2.0%)	139.5 (2.0%)	137.7 (2.0%)	139.1 (2.5%)	149.1 (2.4%)	165.8 (2.1%)	168.2 (2.0%)
Two Engine	195.1 (3.1%)	181.1 (3.5%)	202.9 (5.1%)	204.4 (4.4%)	207.6 (3.8%)	218.2 (3.2%)	230.5 (5.2%)	230.6 (4.6%)	251.1 (3.1%)	254.8 (3.3%)
Other Piston	133.4 (24.9%)	225.3 (42.2%)	140.2 (22.7%)	111.1 (45.4%)	184.2 (27.0%)	433.4 (24.8%)	240.4 (13.4%)	246.8 (15.9%)	197.0 (1.8%)	625.4 (6.2%)
<b>Turboprop--Total</b>	<b>471.3</b> (4.3%)	<b>447.9</b> (4.5%)	<b>388.9</b> (4.7%)	<b>422.9</b> (4.5%)	<b>362.0</b> (4.2%)	<b>414.2</b> (4.4%)	<b>389.4</b> (6.3%)	<b>396.3</b> (6.4%)	<b>470.1</b> (3.8%)	<b>433.4</b> (3.7%)
Two Engine	467.4 (4.4%)	450.3 (4.6%)	374.2 (4.7%)	420.6 (4.6%)	360.7 (4.4%)	416.0 (4.5%)	386.3 (6.5%)	394.4 (6.6%)	469.4 (3.9%)	534.8 (3.1%)
Other Turboprop	568.9 (13.7%)	392.0 (16.7%)	839.9 (24.5%)	498.8 (13.8%)	396.5 (6.0%)	339.3 (17.2%)	578.5 (22.7%)	473.0 (17.8%)	498.8 (18.5%)	487.4 (15.0%)
<b>Turbojet--Total</b>	<b>375.1</b> (3.4%)	<b>405.0</b> (3.8%)	<b>356.2</b> (3.6%)	<b>353.8</b> (4.8%)	<b>368.7</b> (4.0%)	<b>353.6</b> (4.0%)	<b>382.2</b> (5.9%)	<b>404.0</b> (6.2%)	<b>436.3</b> (2.9%)	<b>443.6</b> (3.7%)
Two Engine	384.9 (3.6%)	412.0 (4.1%)	371.5 (3.8%)	385.0 (4.8%)	374.6 (4.4%)	348.6 (4.1%)	391.6 (6.2%)	407.0 (6.8%)	422.6 (3.2%)	456.1 (4.0%)
Other Turbojet	274.7 (11.5%)	346.5 (10.4%)	229.2 (9.6%)	153.8 (28.0%)	325.1 (5.8%)	392.6 (14.7%)	273.7 (14.7%)	385.3 (13.5%)	376.5 (6.0%)	349.9 (8.3%)
<b>Rotorcraft--Total</b>	<b>390.2</b> (0.8%)	<b>423.3</b> (6.2%)	<b>359.3</b> (7.0%)	<b>380.2</b> (6.3%)	<b>336.1</b> (6.8%)	<b>343.6</b> (5.4%)	<b>350.2</b> (6.3%)	<b>383.2</b> (5.7%)	<b>390.8</b> (6.7%)	<b>382.4</b> (5.4%)
Piston	235.8 (1.9%)	227.9 (9.0%)	228.9 (7.8%)	273.2 (11.1%)	191.6 (12.8%)	186.8 (9.7%)	221.1 (6.8%)	236.8 (8.0%)	285.3 (10.3%)	262.9 (7.9%)
Turbine	496.6 (0.8%)	576.7 (7.6%)	485.4 (9.5%)	459.4 (7.6%)	460.3 (8.0%)	468.7 (6.4%)	431.6 (8.0%)	474.2 (7.1%)	489.5 (8.7%)	497.7 (7.1%)
<b>Other--Total</b>	<b>55.6</b> (7.5%)	<b>95.2</b> (25.1%)	<b>62.0</b> (5.5%)	<b>56.2</b> (7.5%)	<b>67.1</b> (7.6%)	<b>56.5</b> (6.4%)	<b>71.1</b> (11.3%)	<b>72.4</b> (9.9%)	<b>78.4</b> (8.0%)	<b>75.0</b> (5.2%)
<b>Total All Aircraft</b>	<b>154.5</b> (1.6%)	<b>153.6</b> (1.7%)	<b>148.4</b> (1.6%)	<b>148.9</b> (1.6%)	<b>158.2</b> (1.6%)	<b>158.1</b> (1.6%)	<b>164.0</b> (2.0%)	<b>174.0</b> (1.9%)	<b>188.1</b> (1.6%)	<b>190.5</b> (1.6%)

NOTE: Columns may not add to totals due to rounding and estimation procedures.

**TABLE 8.6**  
**ACTIVE GENERAL AVIATION AIRCRAFT AND HOURS FLOWN**  
**BY FAA REGION AND STATE OF BASED AIRCRAFT**  
**1989**

FAA Region & State	Active Aircraft		Hours Flown	
	Aircraft	Standard Error	Hours(000)	Standard Error
<b>Total</b> .....	<b>219,737</b>	<b>0.5%</b>	<b>35,043</b>	<b>1.7%</b>
<b>Alaskan Region--Total</b> .....	<b>6,520</b>	<b>6.3%</b>	<b>951</b>	<b>7.5%</b>
<b>Central--Total</b> .....	<b>11,929</b>	<b>5.5%</b>	<b>1,789</b>	<b>7.1%</b>
Iowa.....	2,622	11.9	330	16.6%
Kansas.....	3,466	10.3%	471	12.9%
Missouri.....	4,183	9.7%	722	11.2%
Nebraska.....	1,659	14.9%	265	19.3%
<b>Eastern--Total</b> .....	<b>25,236</b>	<b>3.6%</b>	<b>3,644</b>	<b>5.4%</b>
Delaware.....	1,537	15.4%	378	31.1%
District of Columbia.....	63	47.6%	17	77.5%
Maryland.....	2,897	11.3%	345	14.0%
New Jersey.....	3,994	9.5%	580	10.9%
New York.....	6,601	7.3%	960	8.7%
Pennsylvania.....	5,956	7.7%	726	10.9%
Virginia.....	3,323	10.3%	521	13.2%
West Virginia.....	865	20.8%	118	26.5%
<b>Great Lakes--Total</b> .....	<b>39,383</b>	<b>2.8%</b>	<b>5,418</b>	<b>3.8%</b>
Illinois.....	7,581	7.0%	1,107	8.2%
Indiana.....	3,782	9.8%	511	11.9%
Michigan.....	7,875	6.7%	994	7.7%
Minnesota.....	4,750	8.8%	700	11.1%
North Dakota.....	1,637	15.3%	300	22.0%
Ohio.....	7,896	6.7%	1,047	8.1%
South Dakota.....	1,290	17.1%	170	24.9%
Wisconsin.....	4,572	9.1%	589	11.6%
<b>New England--Total</b> .....	<b>9,395</b>	<b>6.2%</b>	<b>1,404</b>	<b>7.6%</b>
Connecticut.....	2,157	13.2%	333	15.4%
Maine.....	1,473	15.5%	228	22.3%
Massachusetts.....	3,265	10.6%	506	11.2%
New Hampshire.....	1,458	15.8%	194	18.4%
Rhode Island.....	456	30.0%	80	38.1%
Vermont.....	587	25.2%	62	40.3%
<b>Northwest Mountain--Total</b> .....	<b>21,635</b>	<b>3.9%</b>	<b>2,989</b>	<b>5.2%</b>
Colorado.....	4,539	9.0%	643	12.5%
Idaho.....	1,998	13.4%	218	15.6%
Montana.....	2,004	13.2%	247	18.4%
Oregon.....	4,353	8.9%	572	9.5%
Utah.....	1,388	16.3%	299	19.3%
Washington.....	6,439	7.5%	903	9.2%
Wyoming.....	913	19.7%	107	27.6%
<b>Southern--Total</b> .....	<b>36,875</b>	<b>2.9%</b>	<b>6,514</b>	<b>3.9%</b>
Alabama.....	3,347	10.5%	558	12.2%
Florida.....	13,599	5.0%	2,568	5.9%
Georgia.....	5,340	8.3%	806	10.9%
Kentucky.....	1,606	15.2%	215	17.9%
Mississippi.....	1,954	13.7%	298	16.9%
North Carolina.....	5,208	8.4%	750	10.3%
Puerto Rico.....	333	31.8%	84	29.8%
South Carolina.....	2,085	13.3%	439	17.2%
Tennessee.....	3,306	10.3%	774	14.9%
<b>Southwest--Total</b> .....	<b>30,997</b>	<b>3.2%</b>	<b>5,864</b>	<b>4.5%</b>
Arkansas.....	2,879	11.3%	542	14.4%
Louisiana.....	3,270	9.7%	1,074	8.0%
New Mexico.....	2,401	12.2%	298	17.3%
Oklahoma.....	4,127	9.6%	599	12.1%
Texas.....	18,321	4.3%	3,350	6.5%
<b>Western-Pacific--Total</b> .....	<b>37,749</b>	<b>2.8%</b>	<b>6,197</b>	<b>4.1%</b>
Arizona.....	5,234	8.3%	1,115	14.4%
California.....	29,757	3.2%	4,437	3.7%
Hawaii.....	519	22.9%	290	33.1%
Nevada.....	2,239	12.4%	355	14.1%

NOTE: Column totals may differ from printed totals due to estimation procedures.



## IX. AIRCRAFT ACCIDENTS

The data presented in this chapter was obtained from the National Transportation Safety Board.

The Safety Board's statistics categorize aviation accidents according to the Federal Air Regulations under which the accident flights were made. The groupings are:

- Large airlines in scheduled and nonscheduled service under Part 121 of the regulations
- Commuter carriers in scheduled service under Part 135
- "On-demand" air taxis in unscheduled operations under Part 135, and
- General aviation—all other civil flying.

See Glossary under "Aircraft Accident: for NTSB definitions for the following terms: "Fatal Injury", "Operator", "Serious Injury", and "Substantial Damage".

More detailed accident data may be obtained from the National Transportation Safety Board.

**TABLE 9.1**  
**AIR CARRIER and GENERAL AVIATION**  
**AIRCRAFT ACCIDENTS AND FATALITIES**  
(Preliminary Data)  
**1989**

Air Carrier and General Aviation Operations	Number of Accidents		Number of Fatalities
	Total	Fatal	
<b>Air Carriers</b>			
Air Carriers Operating under 14 CFR 121 <sup>1</sup>			
Scheduled .....	24	8	131
Nonscheduled .....	4	3	147
Air Carriers Operating under 14 CFR 135			
Scheduled <sup>2</sup> .....	18	5	31
Nonscheduled <sup>3</sup> .....	110	23	80
General Aviation <sup>4</sup> .....	2,167	420	763

<sup>1</sup> Airlines.

<sup>2</sup> Commuters.

<sup>3</sup> On-Demand Air Taxis.

<sup>4</sup> Includes accidents involving aircraft flown under rules other than 14 CFR 121 and 14 CFR 135.

Source: National Transportation Safety Board.

**TABLE 9.2**  
**AIRLINES**  
(Air Carriers Operating under 14 CFR 121)  
**ACCIDENTS, FATALITIES, AND RATES**  
(Preliminary Data)  
**1989**

	Scheduled	Non-scheduled
<b>Accidents</b>		
Total .....	24	4
Fatal .....	8	3
<b>Fatalities</b> .....	131	147
<b>Aircraft Hours Flown (000) <sup>1</sup></b> .....	10,440	610
<b>Departures (000) <sup>1</sup></b> .....	7,315	311
<b>Accident Rate Per 100,000 Hours Flown</b>		
Total .....	0.23	0.66
Fatal .....	0.08	0.49
<b>Accident Rate Per 100,000 Departures</b>		
Total .....	0.39	1.29
Fatal .....	0.11	0.97

<sup>1</sup> Exposure data estimate source: Research and Special Programs Administration and FAA.

Source: National Transportation Safety Board.

**TABLE 9.3**  
**AIRLINES**  
(Air Carriers Operating under 14 CFR 121)  
**FATAL ACCIDENTS, FATALITIES**  
(Preliminary Data)  
**1989**

Location	Operator	Date	Service	Aircraft	Fatalities				Total Aboard	Reported Type of Accident
					Total	Passen- ger	Crew	Others		
SCHEDULED SERVICE										
Total	—	—	—	—	131	122	8	1	1,020	
Lubbock, TX	Evergreen Int'l	2/09	Cargo	DC-9	1	0	1	0	2	Pilot was incapacitated while inspecting cargo bay.
Puchong, Malaysia	Flying Tigers	2/19	Cargo	B-747	4	0	4	0	4	Crashed while landing
Honolulu, HI	United Airlines	2/24	Psgr	B-747	9	9	0	0	355	10 by 40 foot section of fuselage tore away in flight.
Saginaw, TX	Evergreen Int'l	3/18	Cargo	DC-9	2	0	2	0	2	Crashed during emergency landing.
San Juan, PR	American Airlines	7/12	Psgr	A-300	1	0	0	1	244	Ramp worker was run over while aircraft was being pushed back from gate.
Sioux City, IA	United Airlines	7/19	Psgr	DC-10	111	110	1	0	296	Crashed during emergency landing after loss of engine and hydraulic system.
Flushing, NY	USAir	9/20	Psgr	B-737	2	2	0	0	63	Aircraft departed the end of the runway following an aborted takeoff.
Miami, FL	Eastern Airlines	12/27	Psgr	B-737	1	1	0	0	54	Body found in aft airstair after arrival from Barbados.
NONSCHEDULED SERVICE										
Total	—	—	—	—	147	137	9	1	253	
Santa Maria, Azores	Independent Air	2/08	Psgr	B-707	144	137	7	0	144	Collided with terrain
W. Lafayette, IN	Mid Pacific Airlines	3/15	Cargo	YS-11	2	0	2	0	2	Collided with terrain
Orlando, FL	USAir	10/07	Psgr	DC-9	1	0	0	1	107	Ramp worker was fatally injured when aircraft was struck by lightning while being pushed back from gate.

Source: National Transportation Safety Board

**TABLE 9.4**  
**AIRLINES: SCHEDULED AND NONSCHEDULED SERVICE <sup>5</sup>**  
**ACCIDENTS, FATALITIES AND RATES**  
**(U.S. Air Carriers Operating Under 14 CFR 121)**  
**1980-1989**

	1980	1981	1982	1983	1984	1985	1986	1987	1988 <sup>3</sup>	1989 <sup>4</sup>
<b>Accidents</b>										
Total.....	19	26	20 <sup>3</sup>	24	17 <sup>3</sup>	22	23	36 <sup>3</sup>	32	28
Fatal.....	1	4	5 <sup>3</sup>	4	1	7	2	5	3	11
Total Fatalities.....	1	4	235 <sup>3</sup>	15	4	526	4	232	285	274
Aircraft Hours Flown (000) <sup>1</sup> .....	7,380	7,126	7,040	7,299	8,165	8,710	9,918 <sup>3</sup>	10,534 <sup>3</sup>	10,998	11,050
Aircraft Miles Flown (000,000) <sup>1</sup> .....	3,044	2,921	2,939	3,069	3,428	3,631	4,054 <sup>3</sup>	4,335 <sup>3</sup>	4,500	4,567
Departures (000) <sup>1</sup> .....	5,729	5,575	5,351	5,444	5,899	6,307	7,247 <sup>3</sup>	7,504 <sup>3</sup>	7,590	7,625
<b>Accident Rate Per 100,000 Hours Flown</b>										
Total.....	0.26	0.36	0.27	0.33	0.21 <sup>3</sup>	0.25	0.22 <sup>3</sup>	0.33 <sup>3</sup>	0.28	0.25
Fatal.....	0.01	0.06	0.06	0.06	0.01	0.08	0.01 <sup>3</sup>	0.04	0.02	0.10
<b>Accident Rate Per Million Miles Flown</b>										
Total.....	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Fatal.....	0.00 <sup>2</sup>	0.00 <sup>2</sup>	0.00 <sup>2</sup>	0.00 <sup>2</sup>	0.00 <sup>2</sup>	0.00 <sup>2</sup>	0.00 <sup>2</sup>	0.00 <sup>2</sup>	0.00 <sup>2</sup>	0.00 <sup>2</sup>
<b>Accident Rate Per 00,000 Departures</b>										
Total.....	0.33	0.47	0.36	0.44	0.28 <sup>3</sup>	0.35	0.30 <sup>3</sup>	0.47 <sup>3</sup>	0.41	0.37
Fatal.....	0.02	0.07	0.08	0.07	0.02	0.11	0.01 <sup>3</sup>	0.05	0.03	0.14

<sup>1</sup> Exposure data estimate source: Research and Special Programs Administration.

<sup>2</sup> Rounds to 0.00.

<sup>3</sup> Revised.

<sup>4</sup> Preliminary.

<sup>5</sup> Includes accidents involving deregulated all-cargo air carriers and commercial operators of large aircraft when those accidents occurred during scheduled 14 CFR 121 operations.

Source: National Transportation Safety Board

NOTE: The following suicide/sabotage cases are included in "Accidents" and "Fatalities" but not in "Accident Rates":

Date	Location	Operator	Total	Aboard
8/11/82.....	Honolulu, HI.....	Pan American.....	1	1
4/02/86.....	Near Athens, Greece.....	Trans World.....	4	4
12/07/87.....	San Louis Obispo, CA.....	Pacific Southwest.....	43	43
12/21/88.....	Lockerbie, Scotland.....	Pan American.....	270	259

**TABLE 9.5**  
**AIRLINES: SCHEDULED SERVICE<sup>5</sup>**  
**ACCIDENTS, FATALITIES AND RATES**  
**(U.S. Air Carriers Operating Under 14 CFR 121)**  
**1980-1989**

	1980	1981	1982	1983	1984	1985	1986	1987	1988 <sup>3</sup>	1989 <sup>4</sup>
Accidents										
Total.....	15	25	16	22	13	17	20 <sup>3</sup>	32 <sup>3</sup>	31	24
Fatal.....	0	4	4	4	1	4	1 <sup>3</sup>	4	3	8
Total Fatalities.....	0	4	234	15	4	197	1 <sup>3</sup>	231	285	131
Aircraft Hours Flown (000) <sup>1</sup> .....	7,069	6,834	6,698	6,915	7,736	8,265	9,445 <sup>3</sup>	10,016 <sup>3</sup>	10,427	10,440
Aircraft Miles Flown (000,000) <sup>1</sup> .....	2,929	2,811	2,807	2,921	3,259	3,453	3,867 <sup>3</sup>	4,104 <sup>3</sup>	4,261	4,325
Departures (000) <sup>1</sup> .....	5,567	5,420	5,162	5,235	5,666	6,069	6,976 <sup>3</sup>	7,199 <sup>3</sup>	7,288	7,315
Accident Rate Per 100,000 Hours Flown										
Total.....	0.21	0.37	0.22	0.32 <sup>r</sup>	0.17	0.21	0.20 <sup>3</sup>	0.31 <sup>3</sup>	0.29	0.23
Fatal.....	0.00	0.06	0.04	0.06	0.01	0.05	0.00 <sup>2</sup>	0.03	0.02	0.08
Accident Rate Per Million Miles Flown										
Total.....	0.01	0.01	0.01	0.01	0.00 <sup>2</sup>	0.00 <sup>2</sup>	0.00 <sup>2</sup>	0.01	0.01	0.01
Fatal.....	0.00	0.00 <sup>2</sup>	0.00 <sup>2</sup>	0.00 <sup>2</sup>	0.00	0.00 <sup>2</sup>	0.00 <sup>2</sup>	0.00 <sup>2</sup>	0.00 <sup>2</sup>	0.00 <sup>2</sup>
Accident Rate Per 100,000 Departures										
Total.....	0.27	0.46	0.29	0.42	0.23	0.28	0.27 <sup>3</sup>	0.43 <sup>3</sup>	0.41	0.33
Fatal.....	0.00	0.07	0.06	0.08	0.02	0.07	0.00 <sup>2</sup>	0.04	0.03	0.11

<sup>1</sup> Exposure data estimate source: Research and Special Programs Administration.

<sup>2</sup> Rounds to 0.00.

<sup>3</sup> Revised.

<sup>4</sup> Preliminary.

<sup>5</sup> Includes accidents involving deregulated all-cargo air carriers and commercial operators of large aircraft when those accidents occurred during scheduled 14 CFR 121 operations.

Source: National Transportation Safety Board

NOTE: The following suicide/sabotage cases are included in "Accidents" and "Fatalities" but not in "Accident Rates":

Date	Location	Operator	Total	Aboard
8/11/82.....	Honolulu, HI.....	Pan American.....	1	1
4/02/86.....	Near Athens, Greece.....	Trans World.....	4	4
12/07/87.....	San Louis Obispo, CA.....	Pacific Southwest.....	43	43
12/21/88.....	Lockerbie, Scotland.....	Pan American.....	270	259

**TABLE 9.6**  
**AIRLINES: NONSCHEDULED SERVICE <sup>5</sup>**  
**ACCIDENTS, FATALITIES AND RATES**  
**(U.S. Air Carriers Operating Under 14 CFR 121)**  
**1980-1989**

	1980	1981	1982	1983	1984	1985	1986	1987	1988 <sup>3</sup>	1989 <sup>4</sup>
<b>Accidents</b>										
Total.....	4	1	4	2	4	5	3	4 <sup>3</sup>	1	4
Fatal.....	1	0	1	0	0	3	1	1	0	3
Total Fatalities.....	1	0	1	0	0	329	3	1	0	147
Aircraft Hours Flown (000) <sup>1</sup> .....	310	292	343	384	429	445	473	518 <sup>3</sup>	570	610
Aircraft Miles Flown (000,000) <sup>1</sup> .....	115	109	132	148	169	178	187	231 <sup>3</sup>	239	242
Departures (000) <sup>1</sup> .....	162	155	189	209	233	238	271 <sup>3</sup>	305 <sup>3</sup>	302	310
<b>Accident Rate Per 100,000 Hours Flown</b>										
Total.....	1.29	0.34	1.17	0.52	0.93	1.12	0.64	0.77 <sup>3</sup>	0.18	0.66
Fatal.....	0.32	0.00	0.29	0.00	0.00	0.68	0.21	0.19	0.00	0.49
<b>Accident Rate Per Million Miles Flown</b>										
Total.....	0.03 <sup>3</sup>	0.01	0.03	0.01	0.02	0.03	0.02	0.02	0.00 <sup>2</sup>	0.02
Fatal.....	0.01	0.00	0.01	0.00	0.00	0.02	0.00 <sup>2</sup>	0.00 <sup>2</sup>	0.00	0.01
<b>Accident Rate Per 100,000 Departures</b>										
Total.....	2.46	0.65	2.12	0.96	1.72	2.10	1.12	1.31 <sup>3</sup>	0.33	1.29
Fatal.....	0.62	0.00	0.53	0.00	0.00	1.26	0.37	0.33 <sup>3</sup>	0.00	0.97

<sup>1</sup> Exposure data estimate source: Research and Special Programs Administration.

<sup>2</sup> Rounds to 0.00.

<sup>3</sup> Revised.

<sup>4</sup> Preliminary.

<sup>5</sup> Includes accidents involving deregulated all-cargo air carriers and commercial operators of large aircraft when those accidents occurred during nonscheduled 14 CFR 121 operations.

Source: National Transportation Safety Board

**TABLE 9.7**  
**COMMUTER AIR CARRIERS**  
**(Air Carriers Operating under 14 CFR 135)**  
**FATAL ACCIDENTS, FATALITIES**  
**(Preliminary Data)**  
**1989**

Location	Operation	Date	Service	Aircraft	Fatalities				Total Aboard	Reported Type of Accident
					Total	Passenger	Crew	Others		
<b>Total.....</b>	-	-	-	-	<b>31</b>	<b>25</b>	<b>6</b>	<b>0</b>	<b>34</b>	
Pelican, AK.....	Channel Flying	4/19	Psgr/ Cargo	DHC-2	2	1	1	0	2	Collided with terrain during IFR conditions
Haines, AK.....	Skagway Air Service	7/30	Psgr	PA-32	2	2	0	0	5	Collided with terrain during IFR conditions
Nome, AK.....	Ryan Air Service	8/07	Psgr	C-402	1	0	1	0	1	Collided with terrain during IFR conditions
Halawa Bay, HI.....	Aloha Island Air	10/28	Psgr	DHC-6	20	18	2	0	20	Collided with terrain
Pasco, WA.....	United Express	12/26	Psgr	BAE Jet-stream	6	4	2	0	6	Crashed during approach

Source: National Transportation Safety Board

**TABLE 9.8**  
**COMMUTER AIR CARRIERS**  
 (U.S. Air Carriers Operating under 14 CFR 135) <sup>5</sup>  
**AIRCRAFT ACCIDENTS, FATALITIES, AND RATES**  
**1980-1989**

	1980	1981	1982	1983	1984	1985	1986	1987	1988 <sup>3</sup>	1989 <sup>4</sup>
<b>Accidents</b>										
Total.....	38	31	26	17	22	21	15	32 <sup>3</sup>	19	18
Fatal.....	8	9	5	2	7	7	2	10 <sup>3</sup>	2	5
<b>Fatalities</b> .....	37	34	14	11	48	37	4	59 <sup>3</sup>	21	31
Aircraft Hours Flown (000) <sup>1</sup> .....	1,176	1,241	1,300	1,511	1,746	1,737	1,723 <sup>3</sup>	1,946 <sup>3</sup>	2,037	2,040
Aircraft Miles Flown (000,000) <sup>1</sup> .....	192	193	222	254	291	301	308 <sup>3</sup>	350 <sup>3</sup>	376	380
Departures (000) <sup>1</sup> .....	1,777	1,835	2,027	2,328	2,677	2,561	2,707 <sup>3</sup>	2,847 <sup>3</sup>	2,904	2,900
<b>Accident Rate Per 100,000 Hours Flown <sup>2</sup></b>										
Total.....	3.23	2.50	2.00	1.12	1.26	1.21	0.87 <sup>3</sup>	1.64 <sup>3</sup>	0.93	0.88
Fatal.....	0.68	0.72	0.38	0.13	0.40	0.40	0.12 <sup>3</sup>	0.51 <sup>3</sup>	0.10	0.24
<b>Accident Rate Per Million Miles Flown <sup>2</sup></b>										
Total.....	0.20	0.16	0.12	0.07	0.08	0.07	0.05	0.09 <sup>3</sup>	0.05	0.05
Fatal.....	0.04	0.05	0.02	0.01	0.02	0.02	0.01	0.03	0.01	0.01
<b>Accident Rate Per 000,000 Departures <sup>2</sup></b>										
Total.....	2.14	1.69	1.28	0.73	0.82	0.82	0.55 <sup>3</sup>	1.12 <sup>3</sup>	0.65	0.06 <sup>2</sup>
Fatal.....	0.45	0.49	0.25	0.09	0.26	0.27	0.07 <sup>3</sup>	0.35 <sup>3</sup>	0.07	0.17

<sup>1</sup> Exposure data estimates from Research and Special Programs Administration (RSPA).

<sup>2</sup> Rates are based on all accidents including some involving operators not reporting traffic data to the RSPA.

<sup>3</sup> Preliminary.

<sup>4</sup> Revised.

<sup>5</sup> Includes accidents involving all-cargo air carriers when those accidents occurred during scheduled 14 CFR 135 operations. All-cargo air carriers no longer meet the RSPA definition for "Commuters". May also include accidents involving carriers whose FAA operating specifications permit scheduled revenue operations under 14 CFR 135, but who have not received a RSPA fitness determination.

Source: National Transportation Safety Board.

**TABLE 9.9**  
**ON-DEMAND AIR TAXIS**  
 (U.S. Air Carriers Operating under 14 CFR 135)  
**AIRCRAFT ACCIDENTS, FATALITIES, AND RATES**  
**1980-1989**

Year	Number Of Accidents		Total Fatalities	Aircraft Hours Flown (000) <sup>1</sup>	Accident Rate Per 100,000 Aircraft Hours	
	Total	Fatal			Total Accidents	Fatal Accidents
1980.....	171	46	105	3,618	4.73	1.27
1981.....	157	40	94	2,896	5.42	1.38
1982.....	132	31	72	3,257	4.05	0.95
1983.....	141	27	62	2,575	5.48	1.05
1984.....	146	23	52	3,079	4.74	0.75
1985.....	152	35	76	2,783	5.46	1.26
1986.....	116	31	65	2,913	3.98	1.06
1987.....	98 <sup>2</sup>	30 <sup>2</sup>	65 <sup>2</sup>	2,877	3.41 <sup>2</sup>	1.04 <sup>2</sup>
1988 <sup>2</sup> .....	98	27	58	2,841	3.45	0.95
1989 <sup>3</sup> .....	110	23	80	2,870	3.83	0.80

<sup>1</sup> Exposure data estimate from FAA.

<sup>2</sup> Revised.

<sup>3</sup> Preliminary.

Source: National Transportation Safety Board.

**TABLE 9.10**  
**U.S. GENERAL AVIATION FLYING**  
 (All Operations other than those Operating under 14 CFR 121 or 14 CFR 135)  
**AIRCRAFT ACCIDENTS, FATALITIES, AND RATES**  
**1980-1989**

Year	Number Of Accidents		Total Fatalities	Aircraft Hours Flown (000) <sup>1</sup>	Accident Rate Per 100,000 Aircraft Hours <sup>2</sup>	
	Total	Fatal			Total Accidents	Fatal Accidents
1980.....	3,590	618	1,239	36,402	9.86	1.69
1981.....	3,500	654	1,282	36,803	9.51	1.78
1982.....	3,233	591	1,187	32,095	10.06	1.84
1983.....	3,075	555	1,064	31,048	9.90	1.79
1984.....	3,011 <sup>3</sup>	543	1,039	31,510	9.55 <sup>3</sup>	1.72
1985.....	2,741	497 <sup>3</sup>	950	30,590	8.95	1.62
1986.....	2,580 <sup>3</sup>	473 <sup>3</sup>	965 <sup>3</sup>	29,317	8.80	1.61
1987.....	2,468 <sup>3</sup>	433 <sup>3</sup>	811 <sup>3</sup>	29,208	8.45 <sup>3</sup>	1.48 <sup>3</sup>
1988 <sup>3</sup> .....	2,363	449	781	29,633	7.97	1.52
1989 <sup>4</sup> .....	2,167	420	763	29,901	7.25	1.40

<sup>1</sup> Exposure data estimate from FAA.

<sup>2</sup> Suicide/sabotage accidents are excluded from rates.

<sup>3</sup> Revised.

<sup>4</sup> Preliminary.

Source: National Transportation Safety Board.



## **X. AERONAUTICAL PRODUCTION AND IMPORTS/EXPORTS**

The aircraft production information presented in this chapter was obtained from the Bureau of Census: Complete Aircraft Plant Report (Form M37G). The shipment data shows the number of civil aircraft shipped by the United States manufacturers and includes both aircraft shipped within the United States and those exported.

Import and export data were obtained from the Aerospace Industries Association of America, Inc. and were based on Bureau of the Census data from special monthly compilation of Annual Reports 246 and 446, respectively.

**TABLE 10.1**  
**TOTAL CIVIL AIRCRAFT PRODUCTION, WEIGHT, AND COST**  
**CALENDAR YEARS 1980-1989**

Calendar Year	Number of Aircraft	Airframe Weight (000lbs.)	Value Complete Aircraft (\$000)	Average Complete Aircraft Cost
1980 .....	11,777	97,068	\$13,043,076	\$1,107,504
1981 .....	10,114	89,076	13,195,029	1,304,630
1982 .....	4,053	44,383	8,639,782	2,131,700
1983 .....	2,784	44,936	9,915,761	3,561,696
1984 .....	2,635	33,460	7,911,543	3,002,483
1985 .....	2,457	40,872	10,939,831	4,452,516
1986 .....	2,888	NA	12,517,992	4,334,485
1987 .....	2,319	NA	12,491,743	5,386,394
1988 .....	2,681	NA	16,019,855	5,975,328
1989 .....	3,129	NA	17,467,335	5,582,402

NA No longer available

Source: U.S. Department of Commerce, Bureau of the Census, Industry Division.

**TABLE 10.2**  
**NUMBER OF SHIPMENTS OF COMPLETE CIVIL AIRCRAFT**  
**1980-1989**

Item	1989	1988	1987	1986	1985	1984	1983	1982	1981	1980
Total.....	3,129	2,681	2,319	2,888	2,842	3,028	3,217	4,669	11,067	13,130
Fixed Wing.....	2,014	1,734	1,516	1,858	2,457	2,635	2,784	4,055	10,114	11,777
Single Engine.....	NA	NA	NA	NA	1,551	1,578	1,697	2,546	6,825	8,175
Multiengine.....	NA	NA	NA	NA	906	1,057	1,087	1,509	3,289	3,602
Rotorcraft.....	603	517	360	493	385	393	433	614	953	1,353
Other.....	512	430	443	537	NA	NA	NA	NA	NA	NA

NOTE: Other includes balloons, dirigibles, airships, gliders, sailplanes, and aircraft sold in kits (except hang gliders).  
NA Not available

Source: Current Industrial Reports: Complete Aircraft and Aircraft Engines, M37G-13; Department of Commerce, Bureau of the Census.

**TABLE 10.3**  
**NUMBER OF U.S. IMPORTS OF CIVIL AEROSPACE PRODUCTS**  
**1980-1989**

Item	1988	1987	1986	1985	1984	1983	1982	1981	1980
Aircraft Used or Rebuilt, Civil .....	194	115	141	246	223	181	186	160	100
Helicopters, Civil.....	114	98	87	60	61	100	184	213	177
Aircraft, Single-Engine, Civil.....	40	41	71	46	21	6	23	9	6
Aircraft, Multiengine Under 4,400 lbs., Civil.....	3	1	18	8	33	18	13	2	6
Aircraft, Multiengine, 4,400 to 10,000 lbs., Civil.....	74	101	58	46	58	52	87	123	119
Aircraft, Multiengine, 10,000 to 33,000 lbs., Civil.....	152	155	150	103	95	93	159	218	156
Aircraft, Multiengine, Over 33,000 lbs., Civil.....	18	22	36	29	12	7	8	8	16
Balloons, and Airships, Civil .....	0	0	0	0	0	0	0	0	0
Glinters, Civil.....	111	117	181	628	448	229	200	119	73

NOTE: Categories were changed to reflect Commerce Department's change to the Harmonized Trade Schedule. Historical data is not available in these new categories.

Item	1989
Complete Aircraft.....	674
Transports .....	36
Passenger.....	33
Cargo.....	—
Other Combinations .....	3
General Aviation .....	213
Single Engine .....	59
Multi Engine.....	154
Small.....	1
Medium .....	27
Large .....	126
Turbojet/Turbofan.....	39
Others.....	87
Helicopters .....	124
Small .....	9
Large .....	115
Others .....	301
Used/Rebuilt.....	210
New .....	91

Source: Aerospace Industries Association, Inc. based on Bureau of Census data from special monthly compilation of Annual Report, FT-410.

**TABLE 10.4**  
**NUMBER OF U.S. EXPORTS OF CIVIL AEROSPACE PRODUCTS**  
**1980-1989**

Item	1988	1987	1986	1985	1984	1983	1982	1981	1980
Aircraft Used or Rebuilt, Civil .....	1,644	969	494	277	304	224	242	501	494
Aircraft Helicopter, New, Under 2200 lbs., Civil .....	161	129	104	68	155	141	162	268	335
Aircraft, Helicopter, New, Over 2200 lbs., Civil .....	119	152	106	69	78	75	92	185	190
Aircraft, Single-Engine, New Civil .....	459	307	220	334	271	279	539	1,800	2,172
Aircraft, Multiengine, New, Under 4400 lbs., Civil .....	51	51	63	66	53	106	167	371	546
Aircraft, Multiengine, New, Over 4400 lbs., Under 10,000 lbs., Civil .....	109	127	93	65	83	112	209	426	432
Aircraft, Multiengine, New, Over 10,000 lbs., Under 33,000 lbs., Civil .....	24	24	38	19	18	22	25	20	28
Aircraft, Passenger, New, Over 33,000 lbs., Civil .....	205	160	149	140	77	122	110	236	215
Aircraft, Cargo, New, Over 33,000 lbs., Civil .....	8	4	2	6	3	2	6	7	8
Aircraft Other, New, Over 33,000 lbs., Including Combinations, Civil .....	4	6	8	6	3	5	5	12	14
Aircraft Other, New, Including Balloons, Gliders & Kites, Civil .....	0	0	0	0	0	0	0	0	0

NOTE: Categories were changed to reflect Commerce Department's change to the Harmonized Trade Schedule. Historical data is not available in these new categories.

Item	1989
Complete Aircraft .....	6,452
Transports .....	260
Passenger .....	256
Cargo .....	1
Other Combinations .....	3
General Aviation .....	1,597
Single Engine .....	1,406
Multi Engine .....	191
Small .....	39
Medium .....	104
Large .....	48
Turbojet/Turbofan .....	35
Others .....	13
Helicopters .....	294
Small .....	186
Large .....	108
Others .....	4,301
Used/Rebuilt .....	1,700
New .....	2,601

Source: Aerospace Industries Association, Inc. based on Bureau of Census data from special monthly compilation of Annual Report, FT-410.

## COMMON ACRONYMS

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AAS .....	Airport Advisory Service
ADF .....	Automatic Direction Finder
ARSR .....	Air Route Surveillance Radar
ARTCC .....	Air Route Traffic Control Center
ASR .....	Airport Surveillance Radar
ATC .....	Air Traffic Control
ATCT .....	Airport Traffic Control Tower
CAB .....	Civil Aeronautics Board
DME .....	Distance Measuring Equipment
DVFR .....	Defense Visual Flight Rules
FAA .....	Federal Aviation Administration
FAR .....	Federal Aviation Regulation
FSS .....	Flight Service Station
ICAO .....	International Civil Aviation Organization (Montreal, Canada)
IFR .....	Instrument Flight Rules
IFSS .....	International Flight Service Station
ILS .....	Instrument Landing System
LDA .....	Landing Directional Aid
LRNAV .....	Long Range Navigation
MLS .....	Microwave Landing System
NAS .....	National Airspace System
NAVAIDS .....	Navigation Aids
NOTAMS .....	Notice to Airmen
NTSB .....	National Transportation Safety Board
RNAV .....	Area Navigation
RSPA .....	Research and Special Programs Administration
VFR .....	Visual Flight Rules
VHR .....	Very High Frequency
VOR/VORTAC .....	Very High Frequency Omnidirectional Radio Range

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## GLOSSARY

**Active Aircraft**—All legally registered civil aircraft which flew one or more hours.

**Aerial Application**—See Primary Use.

**Aerial Observation**—See Primary Use.

**Air Carriers**—The commercial system of air transportation consisting of the certificated air carriers, air taxis (including commuters), supplemental air carriers, commercial operators of large aircraft, and air travel clubs.

**Certificated air carrier**—An air carrier holding a Certificate of Public Convenience and Necessity issued by DOT to conduct scheduled services interstate. Nonscheduled or charter operations may also be conducted by these carriers. These carriers operate large aircraft (30 seats or more or a maximum payload capacity of 7,500 pounds or more) in accordance with FAR Part 121.

**Air taxi**—A classification of air carriers which transports in accordance with FAR part 135 persons, property, and mail using small aircraft (under 30 seats or a maximum payload capacity of less than 7,500 pounds).

**Commuter air carrier**—an air taxi operator which performs at least five round trips per week between two or more points and publishes flight schedules which specify the times, days of the week, and points between which such flights are performed.

**Supplemental air carrier (Charter)**—An air carrier which holds Certificates of Public Convenience and Necessity issued by the DOT, authorizing performance of passenger and cargo interstate charter services supplementing the scheduled service of the certificated air carriers. The authority of supplemental air carriers to engage in military charters is of an indefinite period. In addition, they can perform on an emergency basis, as may be authorized by the DOT, scheduled operations including the transportation of individually ticketed passengers and individually way-billed cargo.

**Commercial operator**—a person who for compensation or hire engages in the intrastate carriage of aircraft in air commerce of persons or property other than as an air carrier or foreign air carrier.

**Commercial operator of large aircraft**—commercial operator operating aircraft with 30 seats or more or a maximum payload capacity of 7,500 pounds or more.

**Aircraft Accident**—As defined by the National Transportation Safety Board, it is "an occurrence associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, and in which any person suffers death or serious injury as a result of being in or upon the aircraft or by direct contact with the aircraft or anything attached thereto, or in which the aircraft receives substantial damage."

**Fatal Injury** means any injury which results in death within 7 days of the accident.

**Operator** means any person who causes or authorizes the operation of an aircraft, such as the owner, leasee, or bailee of an aircraft.

**Serious Injury** means any injury which (1) requires hospitalization for more than 48 hours, commencing within 7 days from the date the injury was received; (2) results in a fracture of any bone (except simple fractures of fingers, toes, or nose); (3) involves lacerations which cause severe hemorrhages, nerve, muscle, or tendon damage; (4) involves injury to any internal organ; (5) involves second- or third-degree burns, or any burns affecting more than 5 percent of the body surface.

**Substantial damage:**

- (1) Except as described below, substantial damage means damage or structural failure which adversely affects the structural strength, performance, or flight characteristics of the aircraft, and which would normally require major repair or replacement of the affected component.

Exceptions: engine failure, damage limited to an engine, bent fairings or cowling, dented skin, small puncture holes in the skin or fabric, ground damage to rotor or propeller blades, damage to landing gear, wheels, tires, flaps, engine accessories, brakes or wingtips are not considered substantial for the purpose of this part.

**Aircraft Contact**—Aircraft with which the flight service stations (FSS) have established radio communications contact. One count is made for each enroute, landing, or departing aircraft contacted by an FSS regardless of the number of contacts made with an individual aircraft during the same flight. A flight contacting five FSS's would be counted as five aircraft contacted.

**Aircraft Handled**—See IFR Aircraft Handled.

**Aircraft Type**—A term used in this publication in grouping aircraft by basic configuration—fixed—wing, rotorcraft, glider, dirigible, and balloon.

**Air Defense Identification Zone**—The area of airspace over land or water within which the ready identification, the location, and the control of aircraft are required in the interest of national security.

**Airline Transport Pilot**—See Pilot.

**Airman**—A pilot, mechanic, or other licensed aviation technician.

**Airman Certificate**—A document issued by the Administrator of the Federal Aviation Administration certifying that the holder complies with the regulations governing the capacity in which the certificate authorizes the holder to act as an airman in connection with aircraft.

**Airport**—An area of land or water that is used or intended to be used for the landing and takeoff of aircraft, and includes its buildings and facilities, if any.

**Airport Advisory Service (AAS)**—A service provided by flight service stations at airports not served by a control tower. This service consists of providing information to landing and departing aircraft concerning wind direction and velocity, favored runway, altimeter setting, pertinent known traffic, pertinent known field conditions, airport taxi routes and traffic patterns, and authorized instrument approach procedures.

**Airport Operation**—an aircraft takeoff or landing. There are two types of operations—local and itinerant.

Local operations are performed by aircraft which:

- (a) Operate in the local traffic pattern or within sight of the airport.
- (b) Are known to be departing for, or arriving from, flight in local practice areas within a 20-mile radius of the airport.
- (c) Execute simulated instrument approaches or low passes at the airport.

Itinerant operations are all airport operations other than local operations.

**Airport Traffic**—Aircraft operating in the air or on an airport surface exclusive of loading ramps and parking areas.

**Airport Traffic Control Service**—Air traffic control service provided by an airport traffic control tower for aircraft operating on the movement area and in the vicinity of an airport.

**Airport Traffic Control Tower (ATCT)**—A central operations facility in the terminal air traffic control system, which consist of a tower cab structure, including an associated IFR room if radar equipped, and uses air/ground communications, radar, visual signaling, and other services to provide safe and expeditious movement of terminal air traffic.

**Airports Grants-in-Aid Program**—A grant of funds by the Secretary of Transportation under the Airport & Airway Improvement Act of 1982 to a sponsor for the accomplishment of one or more projects.

**Project**—Projects (or separate projects submitted together) for the accomplishment of airport development or airport planning, including the combined submission of all projects which are to be undertaken at an airport in a fiscal year.

**Sponsor**—Any private owner of a public-use air OR any public agency (either individually or jointly with other public agencies) that submit to the Secretary of Transportation, in accordance with the Airport & Airway Improvement Act of 1982, an application for financial assistance.

**Primary Airports**—A commercial service airport which is determined to have .01 percent or more of the total number of passengers enplaned annually at all commercial service airports.

**Commercial Airports**—(also known as commercial service airports)—A public airport which is determined to enplane annually 2,500 or more passengers and receive scheduled passenger service of aircraft.

**Reliever Airports**—An airport designated as having the function of relieving congestion at a commercial service airport and providing more general aviation access to the overall community.

**General Aviation Airports**—(also known as public airports)—Any airport which is used or to be used for public purposes, under the control of a public agency, the landing area of which is publicly owned.

**System Planning**—(also known as integrated airport system planning)—The initial, as well as continuing development for planning purposes of information and guidance to determine the extent, type, nature, location, and timing of airport development needed in a specific area to establish a viable balanced, and integrated system of public-use airports.

**Airports of Entry**—Aircraft may land at these airports without prior permission to land from U.S. Customs.

**Air Route Traffic Control Center (ARTCC)**—A facility established to provide air traffic control service to aircraft operating on IFR flight plans within controlled airspace, and principally during the enroute phase of flight.

**Air Taxi**—See Air Carrier and Primary Use.

**Air Traffic Control (ATC)**—A service operated by appropriate authority to promote the safe, orderly, and expeditious flow of air traffic.

**Air Traffic Control Facility**—A facility which provides air traffic control services located in the U.S., its possessions and territories, and in foreign countries especially established by international agreement.

**Air Traffic Hub**—Air traffic hubs are not airports; they are the cities or twin cities requiring aviation services. The hubs fall into four classes as determined by each community's percentage of the total enplaned passengers all services and all operations U. S. certificated air carriers in the 50 States, the District of Columbia, and other U.S. areas.

**Large air traffic hub**—a community enplaning 1.00 percent or more of the total enplaned passengers.



**Medium air traffic hub**—a community enplaning from 0.25 to 0.99 percent of the total enplaned passengers.

**Small air traffic hub**—a community enplaning from 0.05 to 0.24 percent of the total enplaned passengers.

**Nonhub**—a community enplaning less than 0.05 percent of the total enplaned passengers.

**All-Cargo Carrier (418)**—One of a class of air carriers holding an All Cargo Air Service Certificate issued under section 418 of the Federal Aviation Act and certificated in accordance with FAR part 121 to provide domestic air transportation of cargo.

**American Flag Carrier**—See U.S. Flag Carrier.

**Approach Control Facility**—A terminal area traffic control facility providing approach control service.

**Approach Control Service**—Air traffic control service provided by an approach control-facility for arriving and departing aircraft and, on occasion, tower enroute control service.

**Business Transportation**—See Primary Use.

**Carrier Group**—A grouping of certificated air carriers determined by annual operating revenues as shown below:

Carrier Group	Annual Operating Revenues
Majors .....	\$1,000,000,000 +
Nationals .....	\$100,000,000 - \$1,000,000,000
Large regionals .....	\$10,000,000 - \$99,999,999
Medium regionals .....	0 - \$9,999,999 or that operate aircraft with 60 or less seats or maximum payload capacity of 18,000 lbs.

**Certificated Route Air Carrier**—See Air Carrier.

**Commercial Operator**—See Air Carrier.

**Commercial Pilot**—See Pilot.

**Commuter Air Carrier**—See Air Carrier.

**Defense Visual Flight Rules (DVFR)**—A flight within an Air Defense Identification Zone conducted under the visual flight rules in Federal Aviation Regulation, Part 99.

**Domestic Operations**—In general, operations within and between the 50 States, and the District of Columbia.

**Executive Transportation**—See Primary Use.

**Flight Plan**—Specified oral or written information about the intended flight of an aircraft that is filed with air traffic control.

**Flight Service Station (FSS)**—Air traffic Service facilities within the National Airspace System (NAS) which provide preflight pilot briefings and en route communications with VFR flights, assist lost IFR/VFR aircraft, assist aircraft having emergencies, relay Air Traffic Control clearances, originate, classify, and disseminate Notices to Airmen, broadcast aviation weather and NAS information, receive the close flight plans, monitor radio NAVAIDS, notify search and rescue units of missing VFR aircraft, and operate the

national weather teletypewriter system. In addition, at selected locations, FSSs take weather observations, issue airport advisories, administer airmen written examinations, and advise Customs and Immigration of across-the-border flights.

**Flight Services**—The sum of flight plans originated and pilot briefs, multiplied by two, plus the number of aircraft contacted. See tables 2.6 and 2.14.

**Foreign Flag Air Carrier**—An air carrier other than a U.S. flag air carrier engaged in international air transportation (see also U.S. Flag Carrier).

**Foreign Mail**—Mail transported outside the United States by U.S. flag carriers for a foreign government.

**General Aviation**—That portion of civil aviation which encompasses all facets of aviation except air carriers.

**Heliport**—An area of land, water, or any structure used or intended to be used for the landing and takeoff of helicopters.

**Hub**—See Air Traffic Hub.

**IFR Aircraft Handled**—The number of IFR departures multiplied by two plus the number of IFR overs. This definition assumes that the number of departures (acceptances, extensions, and originations of IFR flight plans) is equal to the number of landings (IFR flight plans closed).

**IFR Departure**—An IFR departure includes IFR flights originating in center's area, accepted by the center under SOLE EN ROUTE clearance procedures, and extended by the center.

**IFR Over**—An IFR flight that originates outside the ARTCC area and passes through the area without landing.

**Inactive Aircraft**—All legally registered civil aircraft which flew zero hours.

**Instructional Flying**—See Primary Use.

**Instrument Approach**—An approach to an airport, with intent to land, by an aircraft flying in accordance with an IFR flight plan, when the visibility is less than 3 miles and/or when the ceiling is at or below the minimum initial altitude.

**Instrument Flight Rules (IFR)**—Rules governing the procedures for conducting instrument flight. Also a term used by pilots and controllers to indicate type of flight plan.

**Instrument Landing System (ILS)**—A precision instrument approach system which normally consists of the following electronic and visual aids:

**Localizer**—Provides course guidance to the runway.

**Glide Slope**—Provides vertical guidance during approach.

**Marker Beacon**—Provides aural and/or visual identification of a specific position along an instrument approach landing.

**Instrument Operation**—An aircraft operation in accordance with an IFR flight plan or an operation where IFR separation between aircraft is provided by a terminal control facility or air route traffic control center.

**International Flight Service Station (IFSS)**—A central operations facility in the flight advisory system, staffed and equipped to control aeronautical point-to-point telecommunications, and air-ground telecommunications with pilots operating over international territory or waters, which provides flight plan following, weather information, search and rescue action, and other flight assistance operations.

**International Operations**—In general, operations outside the territory of the U.S., including operations between the U.S. and foreign countries, and the U.S. and its territories or possessions. Includes both the combination passenger/cargo carrier and the all-cargo carriers engaged in international and territorial operations.

**Itinerant Operation**—See Airport Operation.

**Jet Route**—A route designed to serve aircraft operations from 18,000 feet to 45,000 feet.

**Landing Rights Airports**—Any aircraft may land at one of these airports after securing prior permission to land from U.S. Customs.

**Large Air Traffic Hub**—See Air Traffic Hub.

**Large Regional Carrier**—See Carrier Groups.

**Large Certificated Air Carrier**—Carrier holding a certificate issued under section 401 of the Federal Aviation Act of 1958 and operating aircraft designed to have a maximum passenger seating capacity of more than 60 seats or a maximum payload capacity of more than 18,000 pounds, or conducting international operations.

**Local Operation**—See Airport Operation.

**Major Carriers**—See Carrier Groups.

**Medium Air Traffic Hub**—See Air Traffic Hub.

**Medium Regional Carrier**—See Carrier Groups.

**Microwave Landing System (MLS)**—An instrument landing system operating in the microwave spectrum which provides lateral and vertical guidance to aircraft having compatible avionics equipment.

**National Carriers**—See Carrier Groups.

**Nonhub**—See Air Traffic Hub.

**Notice to Airmen**—A notice containing information concerning the establishment, condition or change in any component of, or hazard in the National Airspace System, the timely knowledge of which is essential to personnel concerned with flight operations.

**Other**—See Primary Use.

**Other Work Use**—See Primary Use.

**Over**—See IFR Over.

**Personal Flying**—See Primary Use.

**Pilot**—

**Student Pilot**—A student pilot may not operate an aircraft that is carrying a passenger or that is carrying property for compensation or hire.

**Private Pilot**—A private pilot may not act as a pilot-in-command of aircraft that is carrying passengers for compensation or hire nor act as pilot-in-command in an aircraft that is being operated for compensation or hire (e. g.; one that has been hired to do pipeline patrol but carries no passengers.)

**Commercial Pilot**—A commercial pilot may act as pilot-in-command of an aircraft carrying passengers for compensation or hire and act as pilot-in-command in an aircraft that is being operated for compensation or hire (e. g.; one that has been hired to do pipeline patrol but carries no passengers.)

**Airline Transport Pilot**—An airline transport pilot may act as a pilot-in-command of an aircraft engaged in air carrier service.

**Pilot Briefing**—Information furnished a pilot to assist in flight planning. Principal items are weather conditions, notices to airmen, routes, and preparation and handling of the flight plan.

**Primary Use**—The use category in which an aircraft flew the most hours. The eleven use categories are defined below:

**Aerial Application**—Any use of an aircraft for work purposes which concerns the production of foods, fibers, and health control in which the aircraft is used in lieu of farm implements or ground vehicles for the particular task accomplished. This includes fire fighting operations, the distribution of chemicals or seeds in agriculture, reforestation, or insect control.

**Aerial Observation**—Any use of an aircraft for aerial mapping/photography, survey, patrol, fish spotting, search and rescue, hunting, highway traffic advisory, or sightseeing; not included under Part 135.

**Commuter Air Carrier**—An air taxi that performs at least five scheduled round trips per week between two or more points or carries mail.

**Demand Air Taxi**—Use of an aircraft operating under Federal Aviation Regulations, Part 135, passenger and cargo operations, including charter and excluding commuter air carrier.

**Business Transportation**—Use of an aircraft not for compensation or hire by individuals for the purposes of transportation required by business in which they are engaged.

**Executive/Corporate Transportation**—Any use of an aircraft by a corporation, company, or other organization for the purposes of transporting its employees and/or property not for compensation or hire, and employing professional pilots for the operation of the aircraft.

**Instructional Flying**—Any use of an aircraft for the purpose of formal instruction with the flying instructor aboard, or with the maneuvers on the particular flight(s) specified by the flight instructor; excludes proficiency flying.

**Personal Flying**—Any use of an aircraft for personal purposes not associated with a business or profession, and not for hire. This includes maintenance of pilot proficiency.

**Rental Aircraft**—Aircraft owned for the purpose of renting; commercial flying club, leased, and rental aircraft activity.

**Other Work Use**—Any aircraft used for construction work (not included under Part 135), helicopter, hoist, towing gliders, or parachuting.

**Other**—Any other use of an aircraft not included above. (Example: experimentation, R&D; testing, demonstration, government).

**Private Pilot**—See Pilot.

**Private-Use Airport**—An airport which is not open for the use of the general public.

**Privately Owned Airport**—An airport which is owned by a private individual or corporation.

**Public-Use Airport**—An airport open to for public use without prior permission, and without restrictions within the physical capacities of available facilities. May or may not be publicly owned.

**Publicly Owned Airport**—An airport which is publicly owned and under control of a public agency.

**Radar Altimeter**—Aircraft instrument that makes use of the reflection of radio waves from the ground to determine the height of the aircraft above the surface.

**Rental Aircraft**—See Primary Use.

**Small Air Traffic Hub**—See Air Traffic Hub.

**Small Certificated Air Carrier**—Carrier holding a certificate issued under section 401 of the Federal Aviation Act of 1958 and operating aircraft designed to have a maximum seating capacity of 60 or less seat or a maximum payload of 18,000 pounds or less.

**Stolport**—An airport specifically designed for STOL (Short Take-off and Landing) aircraft, separate from conventional airport facilities.

**Student Pilot**—See Pilot.

**Supplementat Air Carrier**—See Air Carrier.

**Terminal Area**—A general term used to describe airspace in which approach control service or airport traffic control service is provided.

**Tower**—See Airport Traffic Control Tower.

**U.S. Flag Carrier or American Flag Carrier**—One of a class of air carriers holding a Certificate of Public Convenience and Necessity issued by the DOT, approved by the President, authorizing scheduled operations over specified routes between the United States (and/or its territories) and one or more foreign countries. (See also Foreign Flag Air Carrier.)

**VFR Flight**—Flight conducted in accordance with Visual Flight Rules.

**VHF Communications**—Provides radio voice communications between aircraft and ground stations, also between aircraft. Very high Frequency (VHF) is limited in range (line of sight) and usually used for air traffic communications.

**VOR**—Very high frequency omnidirectional radio range. Used as the basis for navigation in the national Airspace System.

**VORTAC**—A navigation aid providing azimuth and distance measuring equipment as one site.